Pioneer sound.vision.soul

Service Manual

PRO-730HD

ORDER NO.
ARP3138E

HDTV PROJECTION MONITOR

PRO-730HD
PRO-630HD
PRO-530HD

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PRO-730HD	KUXC/CA	AC120V	
PRO-630HD	KUXC/CA	AC120V	
PRO-530HD	KUXC/CA	AC120V	

This service manual should be used together with the following manual(s).

Model No.	Order No.	Remarks
PRO-730HD, PRO-630HD, PRO-530HD	ARP3139	ADJUSTMENT, DIAGNOSIS, IC, EXPLANATION, PANEL FACILITIES etc.

For details, refer to "Important symbols for good services".

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
©PIONEER CORPORATION 2002

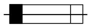
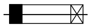
T-ZZY OCT. 2002 printed in Japan

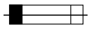
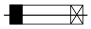
SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

1. SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.

The following precautions should be observed :

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn.
   People not so equipped should be kept away while picture tubes are handled.
   Keep picture tube away from the while handling.
2. When service is required, even though the HDTV PROJECTION MONITOR an isolation transformer should be inserted between power line and the set in safety before any service is performed.
3. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
4. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
5. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
6. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing.
   Therefore, the following checks should be performed for the continued protection of the customer and service technician.

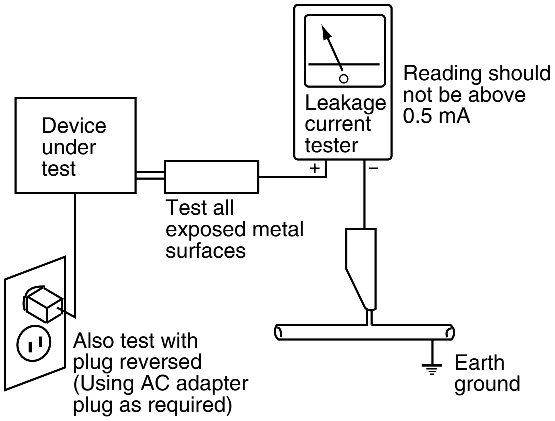
Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis should have a minimum resistor reading of 0.3MΩ and a maximum resistor reading of 5MΩ. Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into a 120V AC 60Hz outlet (do not use an isolation transformer for this check). Turn the AC power switch on.

Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.


Device under test
Leakage current tester
+
−
Reading should not be above 0.5 mA
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

High Voltage

This set is provided with a X-ray protection for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this X-ray protection may correctly be operated.

Serviceman Warning

In the status of the black picture (video muting is being applied) when no signal is input, high voltage of this set during operation is less than 30.5kV. In case any component having some relation to the high voltage is replaced, confirm that the high voltage is lower than 30.5kV in the status of the black picture when no signal is input.

To measure H. V. use a high impedance H. V. meter.

Connect (–) to earth and (+) to the FBT anode cable connector. (Refer to section "7.1.2 DISASSEMBLY".)

X-radiation

TUBE : The primary source of X-radiation in this set is the picture tube.

For continued X-radiation protection, the replacement tube must be the same type as the original, PIONEER approved type.

The picture tube (CRT Service Assy R, G, B) used in this set holds complete guarantee against X-ray radiation when the X-ray is sealed (next page). Accordingly, when the current in flowing to the picture tube (CRT Service Assy R, G, B), be sure to perform it by putting the tube into X-ray sealed applied state. Avoid absolutely to flow the current to the picture tube (CRT Service Assy R, G, B) itself. Moreover, when the voltage of the high voltage circuit becomes abnormally a little higher, the picture tube radiates X-rays. Accordingly, when servicing the high voltage circuit be sure to replace as an assy with the POWER SUPPLY Assy in the manner in which has been adjusted to perform normal operation.

1.2 PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

3. CHARGED SECTION, HIGH VOLTAGE GENERATING POINT AND X-RAY PROTECTION

Charged section

The circuit in which the commercial AC power is used as it is without passing through the power supply transformer.
If the charged section is touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply, In this case, be sure to connect the set via an insulated transformer and supply the current.

Charged section (Power supply primary side)

1. AC Power Cord
2. The primary side of the POWER SUPPLY Assy
3. POWER SW Assy

▨ : Part is charged section.

░ : Part is the high voltage generating points other than the charged section.

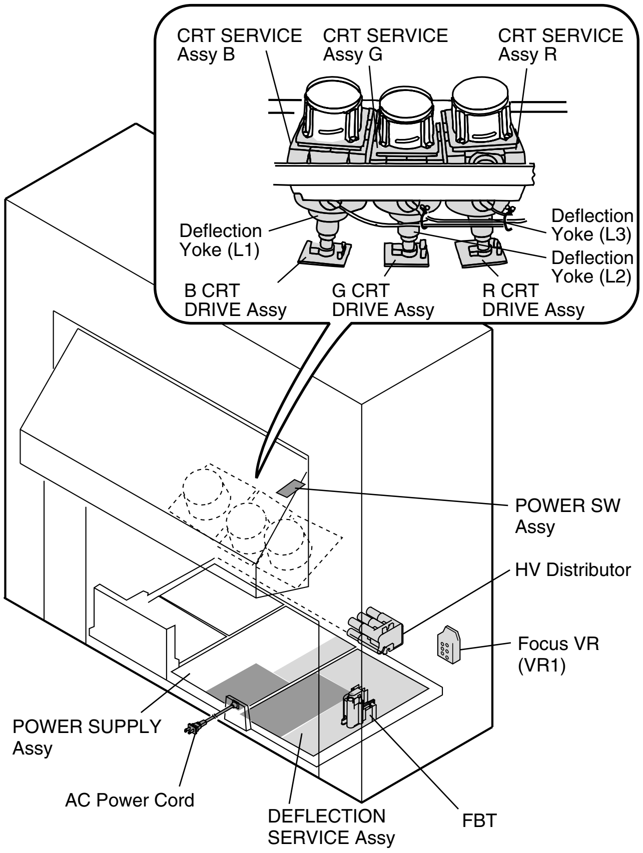

CRT SERVICE Assy B
CRT SERVICE Assy G
CRT SERVICE Assy R
Deflection Yoke (L1)
Deflection Yoke (L3)
Deflection Yoke (L2)
B CRT DRIVE Assy
G CRT DRIVE Assy
R CRT DRIVE Assy
POWER SW Assy
HV Distributor
Focus VR (VR1)
POWER SUPPLY Assy
AC Power Cord
DEFLECTION SERVICE Assy
FBT

Fig.1 Carged Section and High Voltage Generation Point

High Voltage generating point

The place where voltage of over 100V is generated.

1. Charged section
2. DEFLECTION Service Assy (including FBT).....................(30.5kV, 1.2kV, 210V, 120V)
3. POWER SUPPLY Assy..(120V)
4. R CRT DRIVE Assy...................................(10.5kV, 210V)
5. G CRT DRIVE Assy...................................(10.5kV, 210V)
6. B CRT DRIVE Assy...................................(10.5kV, 210V)
7. CRT Service Assy R..(30.5kV)
8. CRT Service Assy G..(30.5kV)
9. CRT Service Assy B..(30.5kV)
10. Focus VR (VR1)..(10.5kV)
11. Deflection Yokes (L1, L2 and L3) ....Approx. (1100V at peak)
12. HV Distributor(Anode) ....(30.5kV)

X-ray protection

- Regarding the parts which are relative to radiation of X-rays (There is the danger to radiate X-ray from the individual CRT Service Assy R, G, B), there are notifications of caution in the individual schematic diagrams. Be sure to read them for safety's sake.
- The component parts for X-ray protection are as follows: When the current flows to the CRT Service Assy R, G, B, be sure to perform it with these parts being attached. Protection from the X-ray radiation is maintained in the state in which these parts have been installed to the CRT Service Assy R, G, B. Accordingly, never supply current only to the CRT Service Assy R, G, B.
  Moreover, the anode voltage of the CRT Service Assy R, G, B should always be kept not higher than the predetermined value (in the minimum brightness and picture state when non signal input is less than 30.5kV). Be sure to drive the CRT Service Assy R, G, B by using a completely functional Deflection Service Assy (including FBT) which have been adjusted completely in the combined state. (When the voltage abnormally becomes high, the X-ray protection circuit will operate.)

1. CRT Service Assy R, G, B (Do not dismantle CRT assemblies under any circumstances).
2. Each Lens Assy

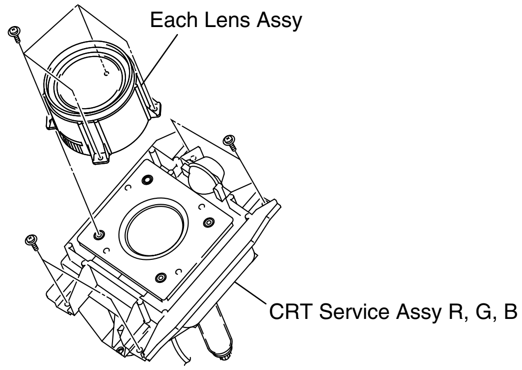

Each Lens Assy
CRT Service Assy R, G, B

Fig.2 Component parts for X-ray protection

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

CONTENTS

SAFETY INFORMATION 2
1. SPECIFICATIONS 7
2. EXPLODED VIEWS AND PARTS LIST 8
  2.1 PACKING 8
  2.2 FRONT SECTION (1) 10
  2.3 FRONT SECTION (2) 12
  2.4 MIRROR SECTION 14
  2.5 SCREEN SECTION 16
  2.6 CRT SECTION 18
  2.7 REAR SECTION 20
  2.8 DVI SECTION 22
  2.9 CHASSIS SECTION 24
  2.10 REAR PANEL SECTION 26
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM 28
  3.1 BLOCK DIAGRAM 28
    3.1.1 VIDEO BLOCK 28
    3.1.2 CONTROL BLOCK 30
    3.1.3 AUDIO BLOCK 32
    3.1.4 TUNER, SIGNAL and DVI SERVICE ASSYS 34
    3.1.5 VIDEO UCOM and R,G,B CRT DRIVE ASSYS 35
    3.1.6 DEFLECTION SERVICE ASSY 36
    3.1.7 DIGITAL CONV. and POWER SUPPLY ASSYS 37
  3.2 OVERALL CONNECTION DIAGRAM 38
  3.3 CONNECTOR PIN NAMES AND VOLTAGES 40
  3.4 TUNER ASSY 44
  3.5 SIGNAL ASSY (1/5) 46
  3.6 SIGNAL ASSY (2/5) 50
  3.7 SIGNAL ASSY (3/5) 52
  3.8 SIGNAL ASSY (4/5) 54
  3.9 SIGNAL (5/5),BNC,FRONT CONTROL,LED RLS and REMOTE SENSOR ASSYS 56
  3.10 FRONT INPUT and D-SUB ASSYS 58
  3.11 DVI SERVICE ASSY 60
  3.12 VIDEO UCOM ASSY (1/5) 64
  3.13 VIDEO UCOM ASSY (2/5) 66
  3.14 VIDEO UCOM ASSY (3/5) 70
  3.15 VIDEO UCOM ASSY (4/5) 74
  3.16 VIDEO UCOM ASSY (5/5) 76
  3.17 R, G and B CRT DRIVE ASSYS 78
  3.18 DEFLECTION SERVICE ASSY (1/2) 80
  3.19 DEFLECTION SERVICE ASSY (2/2) 84
  3.20 DIGITAL CONV.ASSY 86
  3.21 POWER SUPPLY ASSY (1/3) 90
  3.22 POWER SUPPLY ASSY (2/3) 92
  3.23 POWER SUPPLY ASSY (3/3) 96
4. PCB CONNECTION DIAGRAM 98
  4.1 FRONT INPUT and D-SUB ASSYS 99
  4.2 TUNER ASSY 100
  4.3 SIGNAL ASSY 102
  4.4 BNC, FRONT CONTROL, LED RLS and REMOTE SENSOR ASSYS 106
  4.5 DVI SERVICE ASSY 108
  4.6 VIDEO UCOM SERVICE ASSY 110
  4.7 R CRT DRIVE ASSY 114
  4.8 G CRT DRIVE ASSY 116
  4.9 B CRT DRIVE ASSY 118
  4.10 DEFLECTION SERVICE ASSY 120
  4.11 DIGITAL CONV.ASSY 126
  4.12 POWER SUPPLY and POWER SW ASSYS 128
5. PCB PARTS LIST 134

1. SPECIFICATIONS

Display and amplifier section

Reception system American TV standard NTSC system
Screen size .... 64" (PRO-730HD)
58" (PRO-630HD)
53" (PRO-530HD)

CRT .... 7" High focus CRT x 3

Brightness (White peak) ..360 Foot-Lambert (PRO-730HD)
380 Foot-Lambert (PRO-630HD)
450 Foot-Lambert (PRO-530HD)
[White window signal input contrast Max.]
without protective screen

Horizontal resolution ..More than 1400 lines (PRO-730HD)
More than 1250 lines (PRO-630HD)
More than 1150 lines (PRO-530HD)
[Input digital test pattern (1400 lines resolution)]

Input terminals ....4 video inputs
4 S-VIDEO input jacks (Y/C separate INPUT)
2 COMPONENT VIDEO INPUT jacks (Y, P_B, P_R)
6 audio inputs
CENTER INPUT jack
Mini D-sub 15 pin INPUT jack (RGB)
BNC VIDEO INPUT jack
BNC COMPONENT VIDEO INPUT jack (Y, P_B, P_R)
2 DVI 25 pin INPUT jacks (Digital)

NOTE:
INPUT 1 video and component video input can be input to both BNC and RCA type.

Output terminals .... MONITOR/TV, AUDIO
Input terminal signal ratings
Input signal
Video signal:
Composite and S-VIDEO (Y): 1.0 Vp-p (75 ohms load)
COMPONENT (Y): 1.0 Vp-p (75 ohms load)
(P_B, P_R): 0.7 Vp-p (75 ohms load)
*Mini D-sub 15 pin (RGB): 0.7 Vp-p (75 ohms load)
*Digital signal: 3.3V T.M.D.S, 50 ohms
Audio signal (including CENTER): 400mV rms
Input impedance .... Video input: 75 ohms
Audio input (including CENTER): 22 kΩ
or more
Input signal polarity (Video) .... Synchronized negative
Output terminal signal ratings
Output signal .... Video signal: 1 Vp-p (75 ohms load)
Audio signal: 500 mV rms (100 % modulation)
Output impedance .... Video output: 75 ohms
Audio output: Less than 1 kilo-ohms
Effective output
Front both channels driven .... 10 W + 10 W
Built-in speaker system ......16 cm (6-5/16 in) full range x 2

* This jack cannot be used with a personal computer.

Tuner section

Circuit type .... Video signal detection:
PLL full synchronous detection
PLL digital synthesizer system
Audio multiplex: BTSC system
Reception channels.. VHF; CH2~CH13, UHF; CH14~CH69
CATV (STANDARD, IRC or HRC)
CATV 1-125 CH
Antenna terminals ...... Antenna terminal, 75 ohms UNBAL,
F-type connector (VHF, UHF MIXED)

Electrical section, miscellaneous

Power requirements .... 120 V AC, 60 Hz
Power consumption
At time of shipment .... 250 W, 450 VA (CSA)
External dimensions
PRO-730HD .... 1510 (W) x 1425 (H) x 709 (D) mm
59-7/16 (W) x 56-1/8 (H) x 27-15/16 (D) inch
PRO-630HD .... 1378 (W) x 1351 (H) x 675 (D) mm
54-1/4 (W) x 53-3/16 (H) x 26-9/16 (D) inch
PRO-530HD .... 1268 (W) x 1289 (H) x 640 (D) mm
49-15/16 (W) x 50-3/4 (H) x 25-3/16 (D) inch

Weight of main unit
PRO-730HD ....155 kg (341 lb 11 oz)
PRO-630HD .... 138 kg (304 lb 4 oz)
PRO-530HD .... 123 kg (271 lb 3 oz)

Wireless remote control unit

Operation system Infrared remote control system
Power source Two DURACELL ® "AA" MN1500 1.5 V
ALKALINE dry cell batteries
Dimensions 66 (W) x 226.5 (D) x 24.6 (H) mm
2-19/32 (W) x 8-29/32 (D) x 31/32 (H) inch
Weight 165 g (6 oz) (without batteries)

Accessories

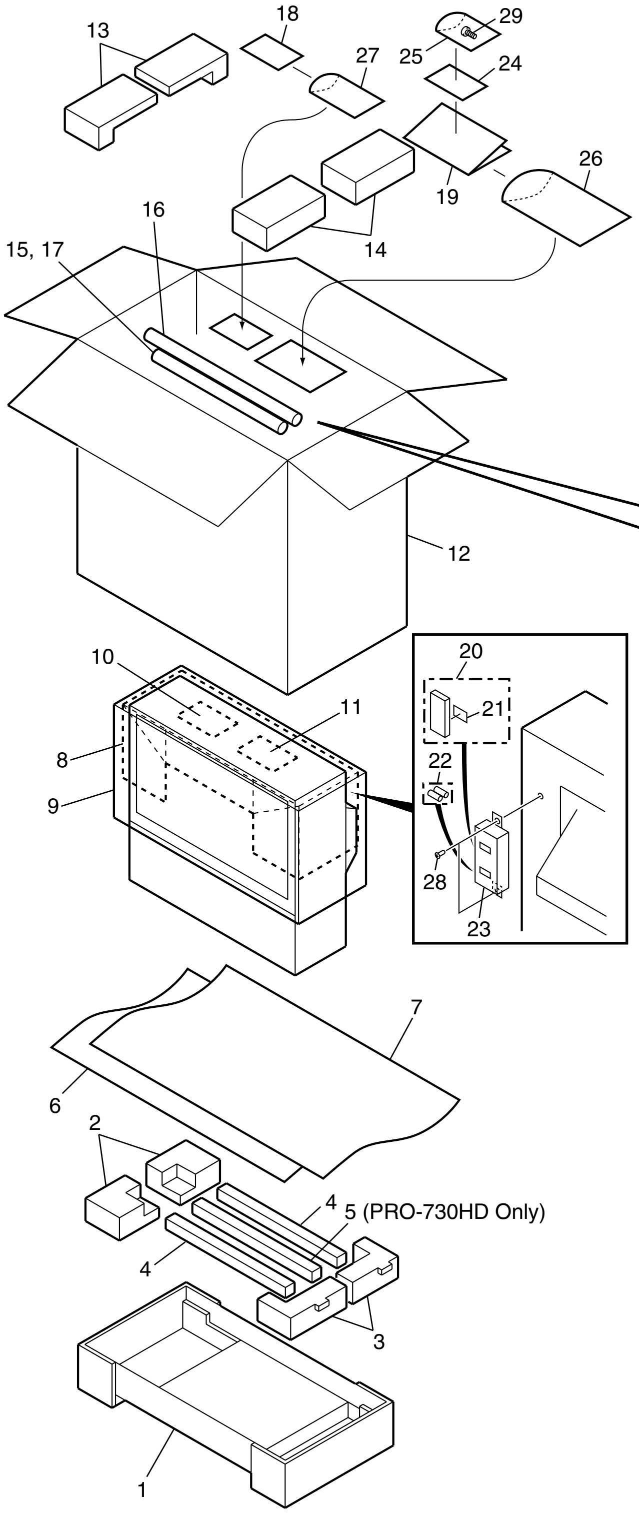
Operating instructions 1
Warranty card 1
Remote control unit 1
DURACELL® "AA" MN1500 1.5V
Alkaline dry cell batteries 2
Side frame cover 2
Frame cover... 2

NOTE:
Specifications and design are subject to possible modifications without notice due to improvements.

2. EXPLODED VIEWS AND PARTS LIST

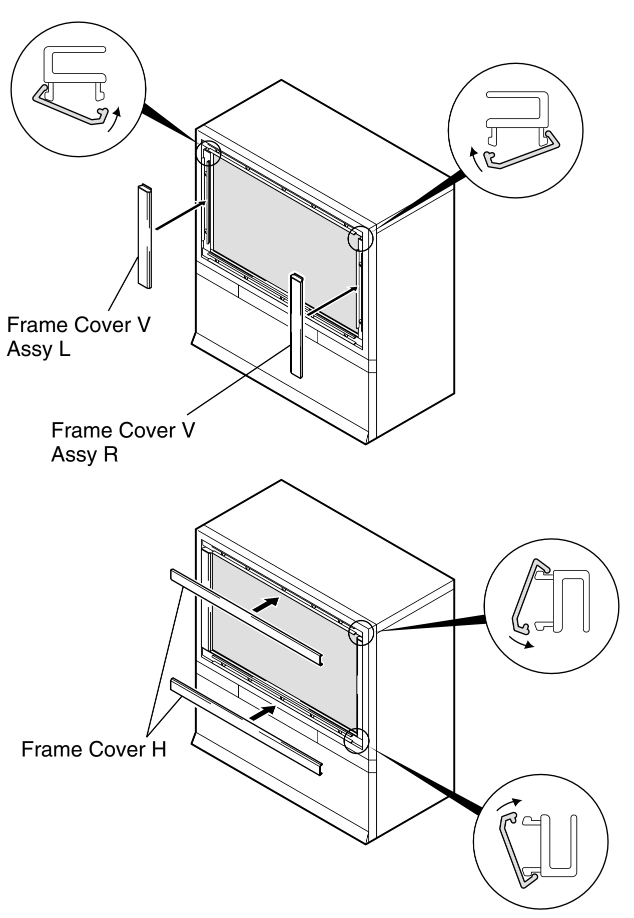
NOTES :
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on the product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*
- *Parts marked by ☆ are important parts which relate in X-rays radiation. If any of these parts need to be replaced, always replace with specified parts.*

2.1 PACKING



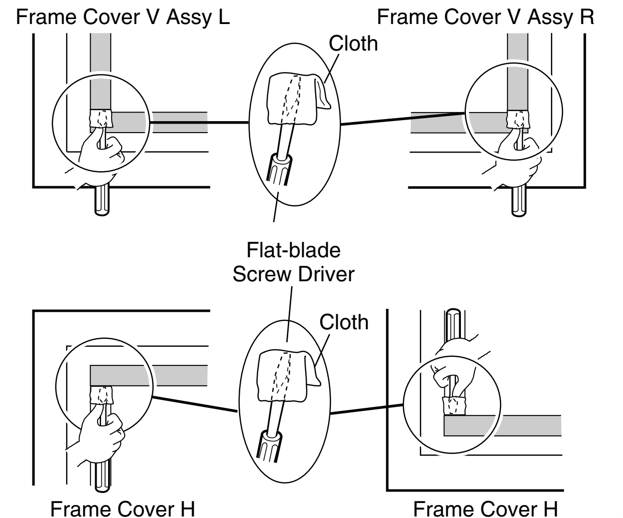
13
18
27
25
29
24
26
19
14
16
15, 17
12
10
11
8
9
20
21
22
28
23
7
6
2
4
5 (PRO-730HD Only)
4
3
1

● How to Attatch the Frame Cover



Frame Cover V Assy L
Frame Cover V Assy R
Frame Cover H

• How to remove Frame Cover



Frame Cover V Assy L
Frame Cover V Assy R
Cloth
Flat-blade Screw Driver
Cloth
Frame Cover H
Frame Cover H

(1) PACKING parts List

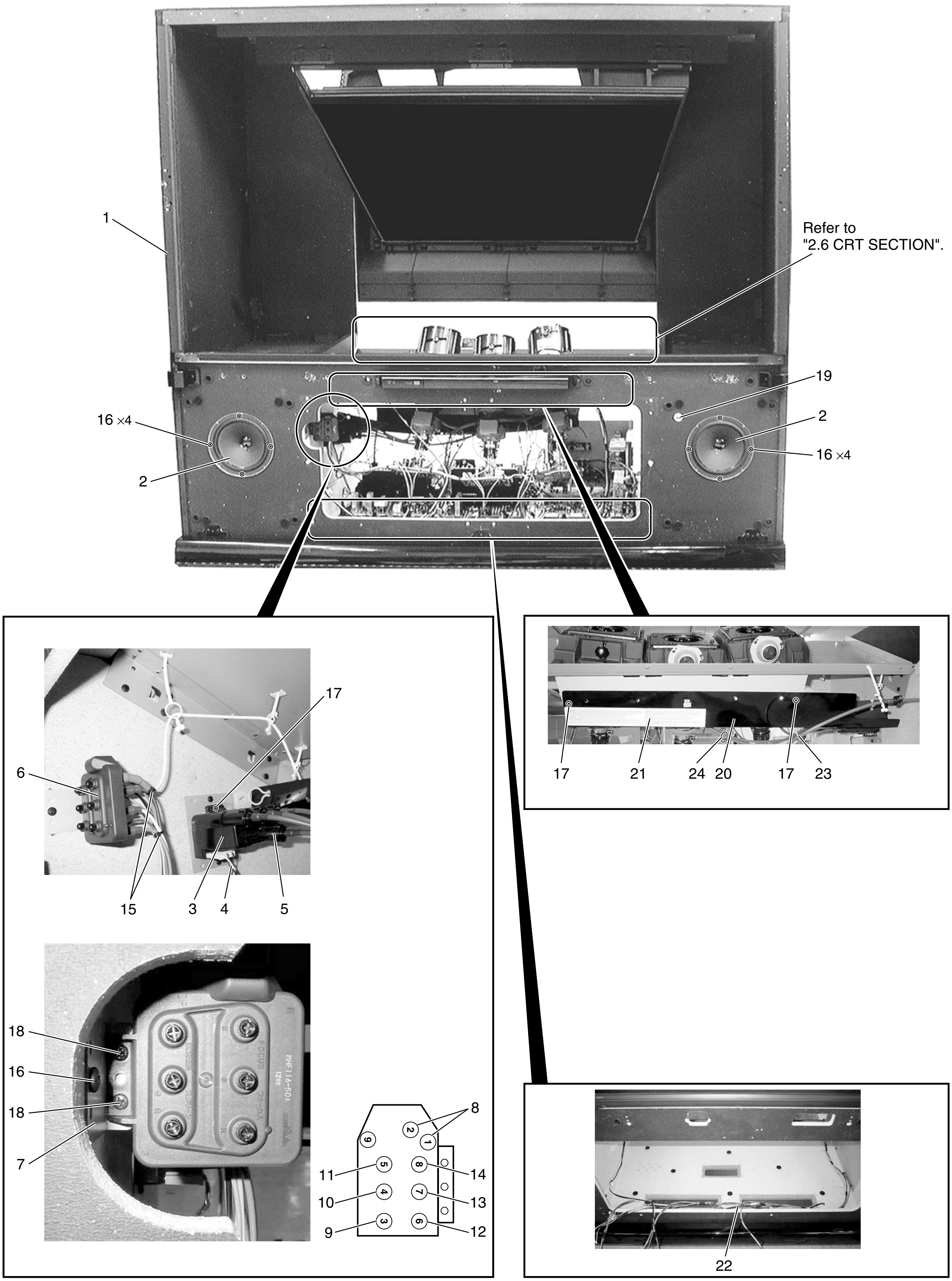
Mark	No.	Description	Part No.
	1	Under Carton	See Contrast table (2)
	2	Under Pad L	See Contrast table (2)
	3	Under Pad R	See Contrast table (2)
NSP	4	Under Cushion A	See Contrast table (2)
NSP	5	Under Cushion B	See Contrast table (2)
	6	Vinyl Sheet Under	See Contrast table (2)
NSP	7	Packing Sheet Under	See Contrast table (2)
NSP	8	Packing Sheet	See Contrast table (2)
NSP	9	Vinyl Sheet	See Contrast table (2)
	10	CONV. Attention Card	ARM1215
	11	Panel Caution Card	ARH1174
	12	Upper Carton	See Contrast table (2)
	13	Upper Pad L	See Contrast table (2)
	14	Upper Pad R	See Contrast table (2)
	15	Frame Cover V Assy L	See Contrast table (2)
	16	Frame Cover H	See Contrast table (2)
	17	Frame Cover V Assy R	See Contrast table (2)
NSP	18	Warranty Card EL	ARY1122
	19	Operating Instructions (English)	ARB1546
	20	Remote Control Unit	AXD1468
	21	Battery Cover	AZN2401
NSP	22	Alkaline Dry Cell Battery (LR6, AA)	AEX1018
	23	CU Packing Case	AHC1032
NSP	24	Caution Card	ARM1057
NSP	25	Wrapper Bag	AHG1076
NSP	26	Literature Bag	AHG1222
NSP	27	Polyethylene Bag	AHG1285
	28	Screw	ABA1239
	29	Screw	ABA1226

(2) CONTRAST TABLE

PRO-730HD/KUXC/CA, PRO-630HD/KUXC/CA and PRO-530HD/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HD/ KUXC/CA	PRO-630HD/ KUXC/CA	PRO-530HD/ KUXC/CA
	1	Under Carton (64W)	AHD2995	Not used	Not used
	1	Under Carton (58W)	Not used	AHD3047	Not used
	1	Under Carton (53W)	Not used	Not used	AHD3048
	2	Under Pad L	AHA2224	AHA2255	AHA2255
	3	Under Pad R	AHA2225	AHA2256	AHA2256
NSP	4	Under Cushion A	AHA2228	Not used	Not used
NSP	4	Under Cushion A (58W)	Not used	AHA2258	Not used
NSP	4	Under Cushion A (53W)	Not used	Not used	AHA2260
NSP	5	Under Cushion B	AHA2229	Not used	Not used
	6	Vinyl Sheet 64W Under	AHG1289	AHG1289	Not used
	6	Vinyl Sheet 60 Under	Not used	Not used	AHG1234
NSP	7	Packing Sheet 64W Under	AHG1290	AHG1290	Not used
NSP	7	Packing Sheet 60L	Not used	Not used	AHG1235
NSP	8	Packing Sheet (60)	AHG1230	AHG1230	Not used
NSP	8	Packing Sheet (50, 45)	Not used	Not used	AHG1120
NSP	9	Vinyl Sheet 64W Upper	AHG1288	AHG1288	Not used
NSP	9	Vinyl Sheet XL	Not used	Not used	AHG1095
	12	Upper Carton (64W)	AHD3150	Not used	Not used
	12	Upper Carton (58W)	Not used	AHD3149	Not used
	12	Upper Carton (53W)	Not used	Not used	AHD3148
	13	Upper Pad L	AHA2222	AHA2253	AHA2253
	14	Upper Pad R	AHA2223	AHA2254	AHA2254
	15	Frame Cover V Assy L 64	AAP1664	Not used	Not used
	15	Frame Cover V Assy L 58	Not used	AAP1662	Not used
	15	Frame Cover V Assy L 53	Not used	Not used	AAP1660
	16	Frame Cover H (64W)	AAP1593	Not used	Not used
	16	Frame Cover H (58W)	Not used	AAP1613	Not used
	16	Frame Cover H (53W)	Not used	Not used	AAP1614
	17	Frame Cover V Assy R 64	AAP1665	Not used	Not used
	17	Frame Cover V Assy R 58	Not used	AAP1663	Not used
	17	Frame Cover V Assy R 53	Not used	Not used	AAP1661

2.2 FRONT SECTION (1)


Refer to
"2.6 CRT SECTION".
1
19
16 ×4
2
2
2
16 ×4
17
6
15
3
4
5
18
16
18
7
8
1
2
9
5
8
4
7
3
6
11
10
9
14
13
12
17
21
24
20
17
23
22

(1) FRONT SECTION (1) parts List

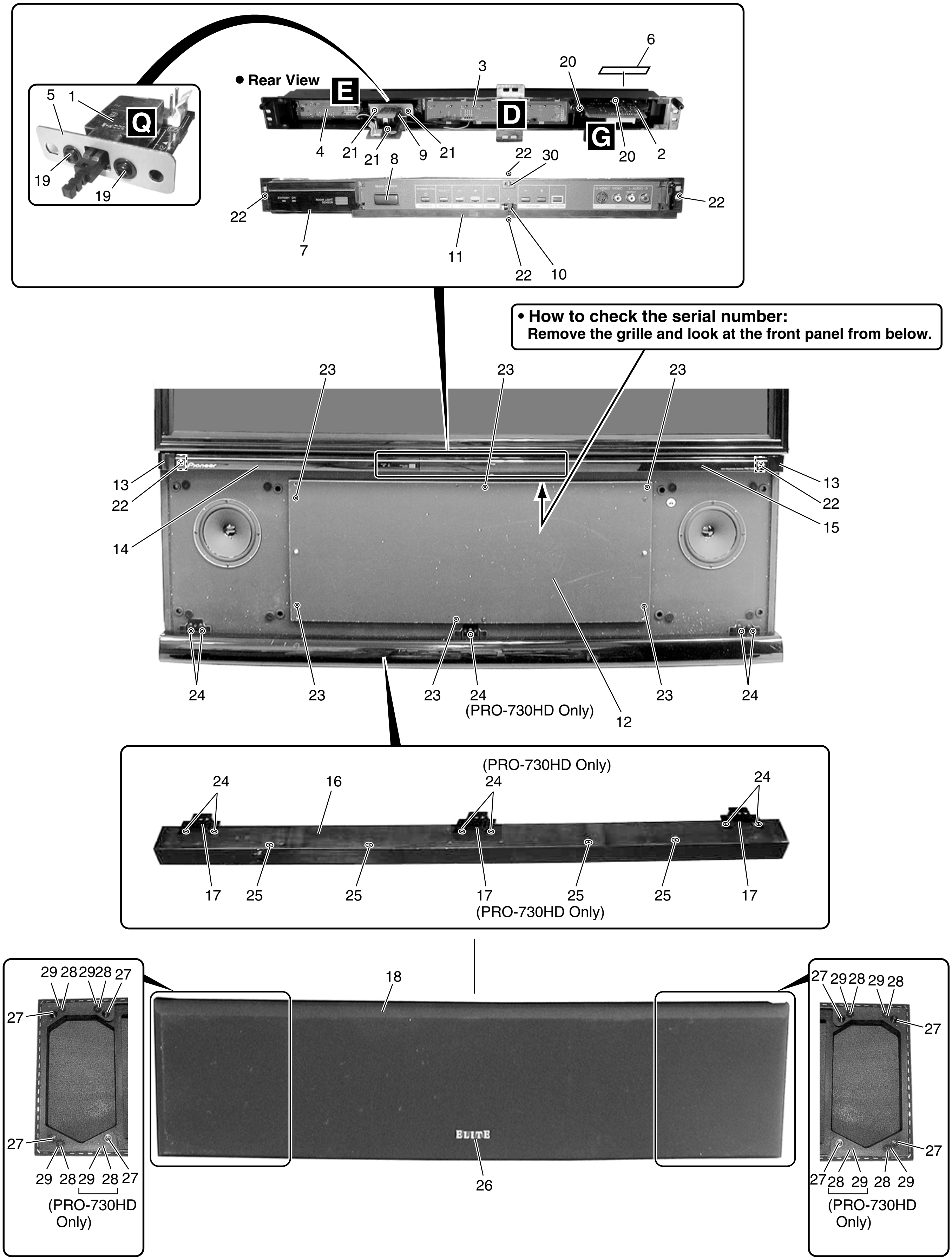
Mark	No.	Description	Part No.
NSP	1	Cabinet	See Contrast table (2)
	2	Cone Speaker	APV1021
	3	HV Distributor	AXW1050
	4	5P HV Return Wire (J2)	ADX2658
	5	HV Cable (J9)	ADY1064
⚠	6	Focus Volume (VR1)	ACX1097
NSP	7	VR Holder	ANG1956
	8	4P Housing Wire (J11)	ADX2801
	9	1P Lead Wire (J3)	ADX2659
	10	1P Lead Wire (J4)	ADX2660
	11	1P Lead Wire (J5)	ADX2661
	12	1P Lead Wire (J6)	ADX2662
	13	1P Lead Wire (J7)	ADX2663
	14	1P Lead Wire (J8)	ADX2664
	15	Nylon Binder	AEC-093
	16	Screw	ABA1240
	17	Screw	ABZ30P120FZK
	18	Screw	BBZ30P080FZK
NSP	19	UL Caution Card	AAX1238
NSP	20	Tray	AMR3337
NSP	21	Solder Warning Label	AAX2835
	22	Wire Harness A (J12)	ADX2802
	23	Purse Lock	AEC1540
	24	Purse Lock S	AEC1261

(2) CONTRAST TABLE

PRO-730HD/KUXC/CA, PRO-630HD/KUXC/CA and PRO-530HD/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HD/ KUXC/CA	PRO-630HD/ KUXC/CA	PRO-530HD/ KUXC/CA
NSP	1	Cabinet (64W)	AMM3217	Not used	Not used
NSP	1	Cabinet (58W)	Not used	AMM3216	Not used
NSP	1	Cabinet (53W)	Not used	Not used	AMM3215

2.3 FRONT SECTION (2)


● Rear View
E
Q
D
G
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
(PRO-730HD Only)
ELITE

• How to check the serial number:
Remove the grille and look at the front panel from below.

(1) FRONT SECTION (2) parts List

Mark	No.	Description	Part No.
	1	POWER SW Assy	AWZ6713
	2	FRONT INPUT Assy	AWZ6715
	3	FRONT CONTROL Assy	AWZ6718
	4	LED RLS Assy	AWZ6719
NSP	5	Switch Holder	ANG2313
NSP	6	Serial Tag	AAX1144
	7	Front Panel Assy	AMB2739
	8	Power Knob	AAD4105
NSP	9	Front Shield	ANK1502
	10	Axis Damper	AXA1016
	11	Door Assy	AAN1468
	12	Blind Plate	AMM3222
	13	Side Cover	AMR3107
	14	Side Panel Assy L	See Contrast table (2)
	15	Side Panel Assy R	See Contrast table (2)

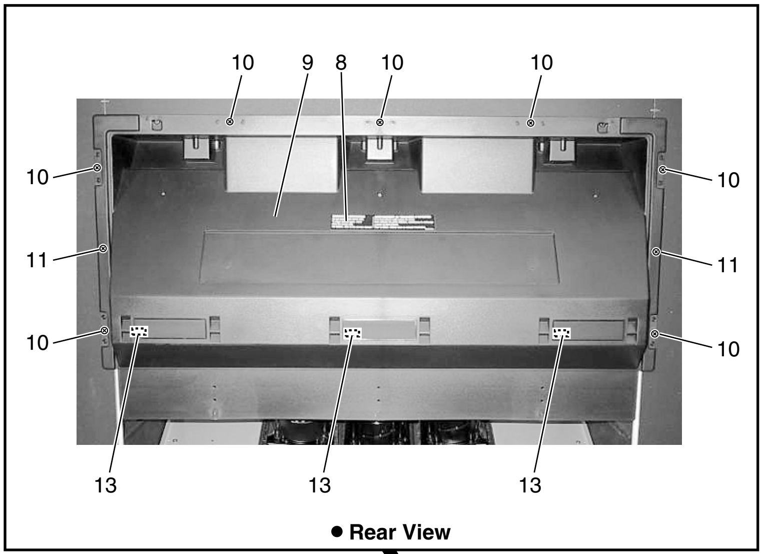
Mark	No.	Description	Part No.
NSP	16	Bottom Rail	See Contrast table (2)
	17	Bottom Rail Holder	ANG2289
	18	Grille	See Contrast table (2)
	19	Screw	AMZ30P060FZK
	20	Screw	ABZ40P080FZK
	21	Screw	APZ30P080FZK
	22	Screw	ABA1240
	23	Screw	ABA1249
	24	Screw	ABA1239
	25	Screw	ABA1263
	26	ELITE Badge	AAM1081
NSP	27	Catcher A	ANZ-241
	28	Screw	ABA1271
	29	Magic Tape	AEC1394
	30	Catcher F2M	AEC1609

(2) CONTRAST TABLE

PRO-730HD/KUXC/CA, PRO-630HD/KUXC/CA and PRO-530HD/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HD/ KUXC/CA	PRO-630HD/ KUXC/CA	PRO-530HD/ KUXC/CA
	14	Side Panel Assy 64L	AMB2747	Not used	Not used
	14	Side Panel Assy 58L	Not used	AMB2701	Not used
	14	Side Panel Assy 53L	Not used	Not used	AMB2700
	15	Side Panel Assy 64R	AMB2745	Not used	Not used
	15	Side Panel Assy 58R	Not used	AMB2743	Not used
	15	Side Panel Assy 53R	Not used	Not used	AMB2741
NSP	16	Bottom Rail 64	AMM2945	Not used	Not used
NSP	16	Bottom Rail 58	Not used	AMM3011	Not used
NSP	16	Bottom Rail 53	Not used	Not used	AMM3012
	18	Grille (64W)	AMM3225	Not used	Not used
	18	Grille (58W)	Not used	AMM3224	Not used
	18	Grille (53W)	Not used	Not used	AMM3223

2.4 MIRROR SECTION

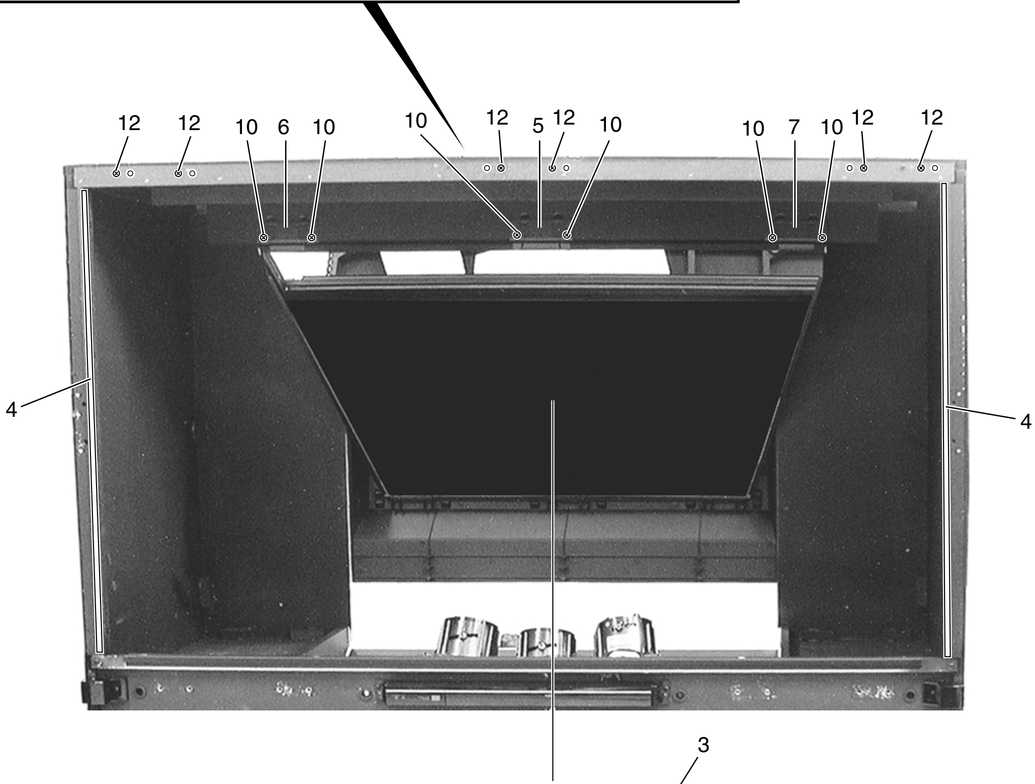

10
9
8
10
10
10
10
11
11
10
10
13
13
13

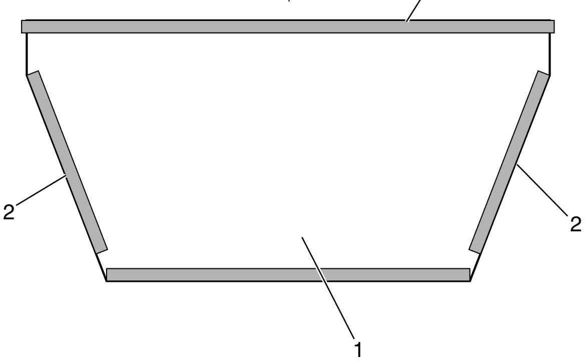
● Rear View

Caution :

Be sure to remove the mirror inside the cabinet before removing the mirror case.
If the mirror case is removed first, the mirror will fall and likely become damaged.

A Torx driver is required to remove the No.11 screws.


12
12
10
6
10
10
12
5
12
10
10
7
10
12
12
4
4



(1) MIRROR SECTION parts List

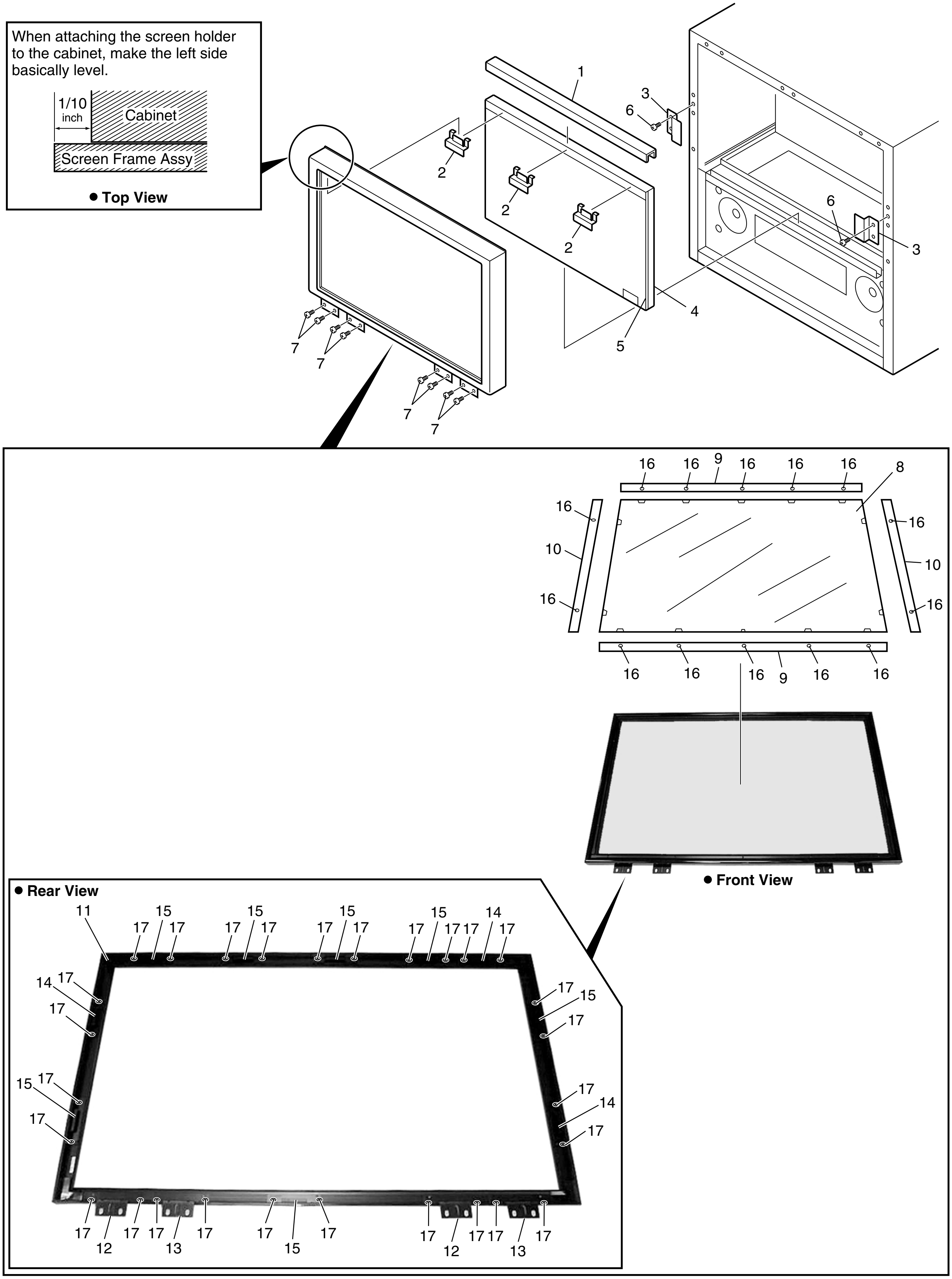
Mark	No.	Description	Part No.
	1	Mirror	See Contrast table (2)
	2	Mirror Frame V	See Contrast table (2)
	3	Mirror Frame H	See Contrast table (2)
	4	Screen Cushion	See Contrast table (2)
NSP	5	Mirror Upper Stay C	ANG2006
NSP	6	Mirror Upper Stay L	ANG2004
NSP	7	Mirror Upper Stay R	ANG2005
NSP	8	Mirror Case Label	AAX2448
	9	Mirror Case (51)	AME2296
	10	Screw	ABA1240
	11	Screw	PYC40T140FZB
	12	Screw	BYC35P160FZK
	13	Blind Sheet	AEC1622

(2) CONTRAST TABLE

PRO-730HD/KUXC/CA, PRO-630HD/KUXC/CA and PRO-530HD/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HD/ KUXC/CA	PRO-630HD/ KUXC/CA	PRO-530HD/ KUXC/CA
	1	Mirror 64W	AMR3333	Not used	Not used
	1	Mirror 58W	Not used	AMR3332	Not used
	1	Mirror 53W	Not used	Not used	AMR3331
	2	Mirror Frame V 64WB	ANG2392	Not used	Not used
	2	Mirror Frame V 58WB	Not used	ANG2526	Not used
	2	Mirror Frame V 53WB	Not used	Not used	ANG2524
	3	Mirror Frame H 64WB	ANG2391	Not used	Not used
	3	Mirror Frame H 58WB	Not used	ANG2371	Not used
	3	Mirror Frame H 53WB	Not used	Not used	ANG2372
	4	Screen Cushion 64	AEC1778	Not used	Not used
	4	Screen Cushion 58	Not used	AEC1830	Not used
	4	Screen Cushion 53	Not used	Not used	AEC1831

2.5 SCREEN SECTION



When attaching the screen holder to the cabinet, make the left side basically level.

1/10
inch
Cabinet
Screen Frame Assy
● Top View
1
2
2
2
3
6
6
3
4
5
7
7
7
7
16 16 9 16 16 16
8
16
10
16
16
10
16
16 16 16 9 16 16
● Front View
● Rear View
11
15 15 15 15 14
17 17 17 17 17 17 17 17 17 17
14 17
17
17 15
17
15 17
17
17
14
17
17 12 17 17 13 17 17 15 17 17 12 17 17 13 17

(1) SCREEN SECTION parts List

Mark	No.	Description	Part No.
	1	Screen Holder TOP	See Contrast table (2)
NSP	2	Upper Cabinet Metal	ANG2000
NSP	3	Screen Side Fitting	ANG1993
	4	Fresnel	See Contrast table (2)
	5	Lenticular Sheet	See Contrast table (2)
	6	Screw	ABA1240
	7	Screw	ABA1189
	8	AR Panel	See Contrast table (2)
	9	Panel Frame H	See Contrast table (2)
	10	Panel Frame V	See Contrast table (2)

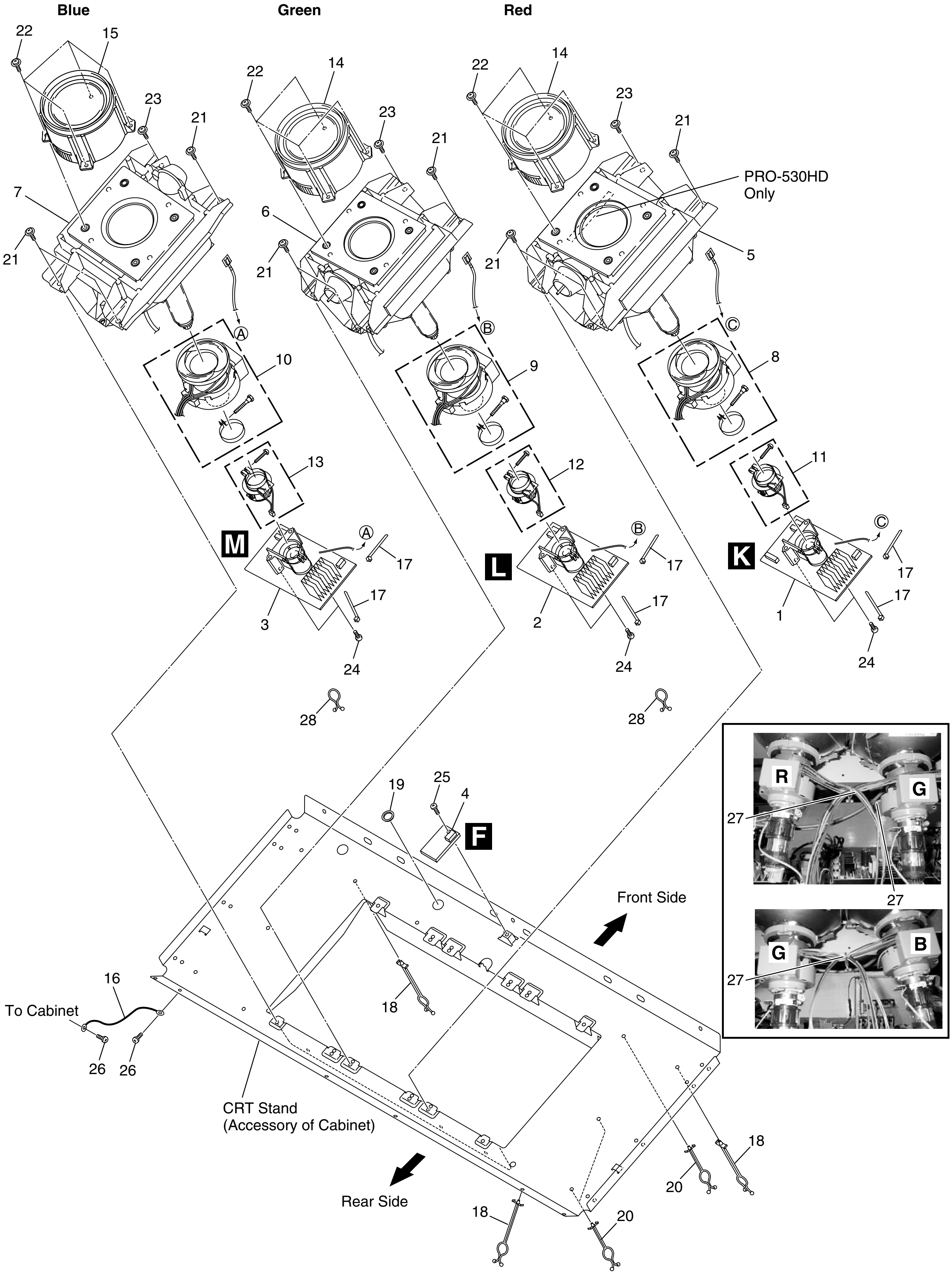
Mark	No.	Description	Part No.
	11	Screen Frame Assy	See Contrast table (2)
NSP	12	Under Screen Metal A	ANG2003
NSP	13	Under Screen Metal B	ANG2009
NSP	14	Upper Screen Metal A	ANG2001
NSP	15	Upper Screen Metal B	ANG2002
	16	Screw	ABA1226
	17	Screw	BYC40P160FMC

(2) CONTRAST TABLE

PRO-730HD/KUXC/CA, PRO-630HD/KUXC/CA and PRO-530HD/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HD/ KUXC/CA	PRO-630HD/ KUXC/CA	PRO-530HD/ KUXC/CA
	1	Screen Holder TOP 64W	ANG2530	Not used	Not used
	1	Screen Holder TOP 58W	Not used	ANG2369	Not used
	1	Screen Holder TOP 53W	Not used	Not used	ANG2370
	4	Fresnel 64W	AMR3330	Not used	Not used
	4	Fresnel 58W	Not used	AMR3329	Not used
	4	Fresnel 53W	Not used	Not used	AMR3328
	5	Lenticular Sheet 64W	AMR3327	Not used	Not used
	5	Lenticular Sheet 58W	Not used	AMR3326	Not used
	5	Lenticular Sheet 53W	Not used	Not used	AMR3325
	8	AR Panel (64W)	AAK2791	Not used	Not used
	8	AR Panel (58W)	Not used	AAK2790	Not used
	8	AR Panel (53W)	Not used	Not used	AAK2789
	9	Panel Frame H (64W)	AND1174	Not used	Not used
	9	Panel Frame H (58W)	Not used	AND1173	Not used
	9	Panel Frame H (53W)	Not used	Not used	AND1172
	10	Panel Frame V (64W)	AND1177	Not used	Not used
	10	Panel Frame V (58W)	Not used	AND1176	Not used
	10	Panel Frame V (53W)	Not used	Not used	AND1175
	11	Screen Frame Assy (64W)	AAP1655	Not used	Not used
	11	Screen Frame Assy (58W)	Not used	AAP1654	Not used
	11	Screen Frame Assy (53W)	Not used	Not used	AAP1653

2.6 CRT SECTION


Blue
Green
Red
22
15
23
21
7
21
22
14
23
21
6
21
22
14
23
21
PRO-530HD Only
5
21
A
10
B
9
C
8
13
12
11
M
A
17
L
B
17
K
C
17
17
3
24
17
2
24
17
1
24
28
28
19
25
4
F
Front Side
16
To Cabinet
26
26
18
CRT Stand (Accessory of Cabinet)
Rear Side
18
20
18
20
R
G
27
27
G
B
27

(1) CRT SECTION parts List

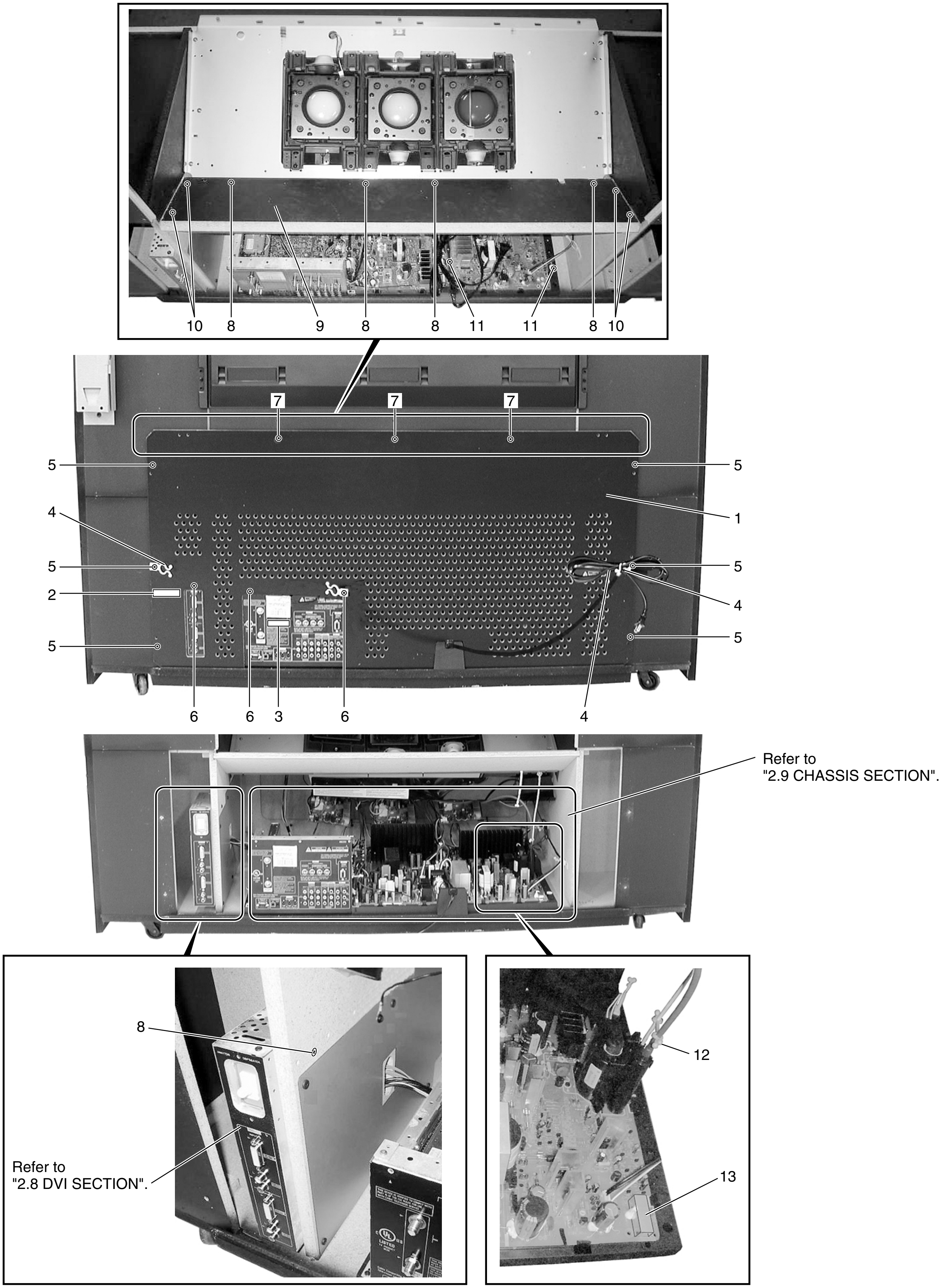
Mark	No.	Description	Part No.
	1	R CRT DRIVE Assy	AWZ6709
	2	G CRT DRIVE Assy	AWZ6710
	3	B CRT DRIVE Assy	AWZ6711
	4	REMOTE SENSOR Assy	AWZ6717
☆	5	CRT SERVICE Assy R	See Contrast table (2)
☆	6	CRT SERVICE Assy G	AWY1444
☆	7	CRT SERVICE Assy B	See Contrast table (2)
⚠	8	Deflection Yoke (L1)	ATL1144
⚠	9	Deflection Yoke (L2)	ATL1144
⚠	10	Deflection Yoke (L3)	ATL1144
⚠	11	VM Coil (L4)	ATL1146
⚠	12	VM Coil (L5)	ATL1146
⚠	13	VM Coil (L6)	ATL1146
☆	14	Lens Assy	See Contrast table (2)
☆	15	Lens Assy	See Contrast table (2)
⚠	16	1P Lead Wire (J15)	ADX2505
	17	Binder	AEC-093
	18	Cord Holder	AEC1257
	19	Bushing	AEC1869
NSP	20	Lead Clamper M	AEC1611
	21	Screw	ABA1168
	22	Screw	AMZ40P080FZK
	23	Screw	FBT40P120FZK
	24	Screw	BPZ30P080FZK
	25	Screw	BBZ30P080FZK
	26	Screw	ABZ30P120FZK
NSP	27	Purse Lock S	AEC1261
	28	Purse Lock	AEC1540

(2) CONTRAST TABLE

PRO-730HD/KUXC/CA, PRO-630HD/KUXC/CA and PRO-530HD/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HD/ KUXC/CA	PRO-630HD/ KUXC/CA	PRO-530HD/ KUXC/CA
☆	5	CRT SERVICE Assy 64R	AWY1448	Not used	Not used
☆	5	CRT SERVICE Assy 58R	Not used	AWY1446	Not used
☆	5	CRT SERVICE Assy 53R	Not used	Not used	AWY1443
☆	7	CRT SERVICE Assy 58B	AWY1447	AWY1447	Not used
☆	7	CRT SERVICE Assy 53B	Not used	Not used	AWY1445
☆	14	Lens Assy	AMR3235	AMR3235	AMR3248
☆	15	Lens Assy	AMR3321	AMR3321	AMR3321

2.7 REAR SECTION


10
8
9
8
8
11
11
8
10
7
7
7
5
5
1
4
5
5
2
4
5
5
6
6
3
6
4
8
12
13

Refer to "2.9 CHASSIS SECTION".

Refer to "2.8 DVI SECTION".

(1) REAR SECTION parts List

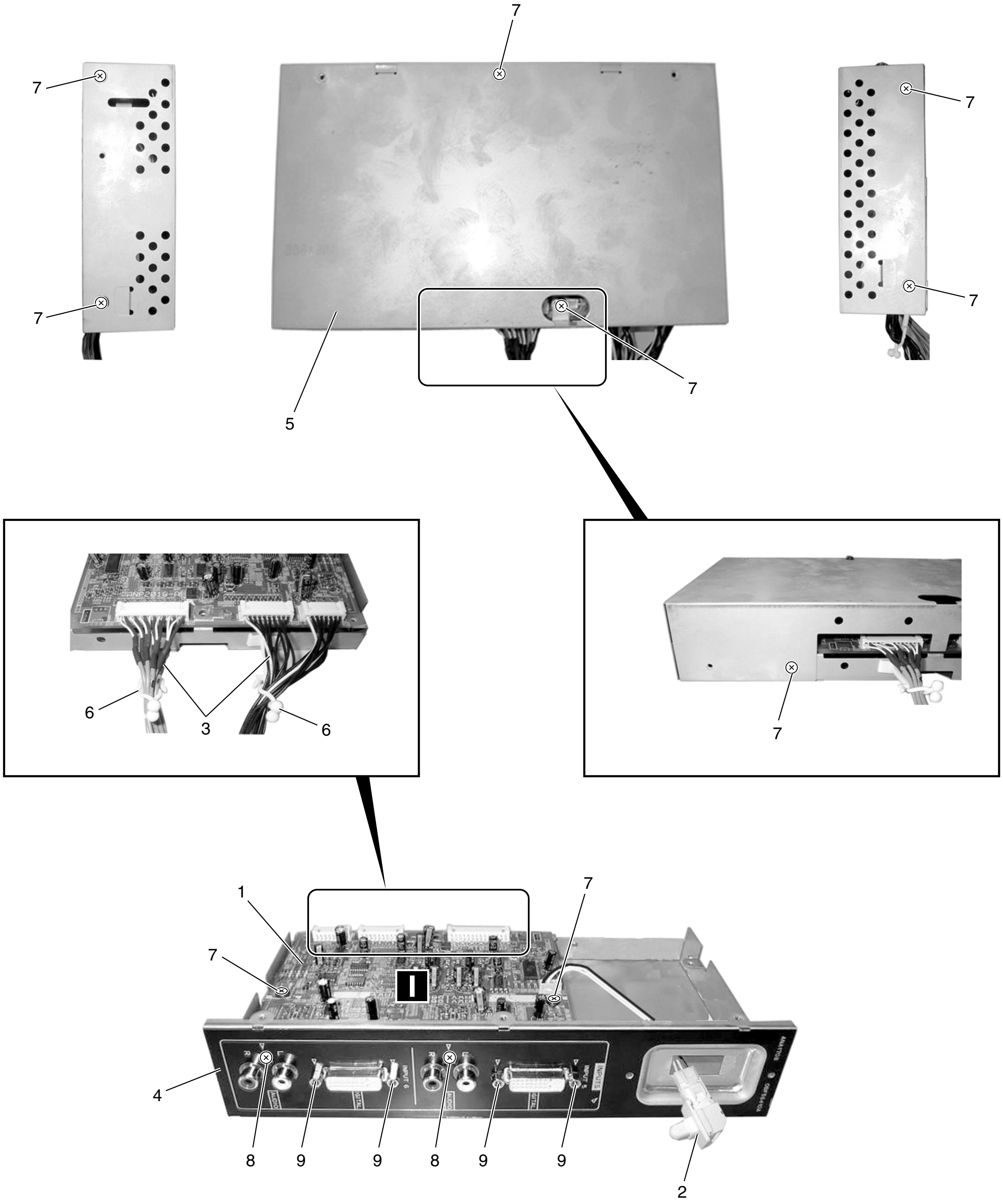
Mark	No.	Description	Part No.
	1	Rear Cover	See Contrast table (2)
NSP	2	DVI Caution Label	AAX2954
NSP	3	Serial Tag	AAX2548
NSP	4	Cabinet Wire Holder	AEC1263
	5	Screw	ABA1240
	6	Screw	ABZ30P120FZK
	7	Screw	ABA1269
	8	Screw	ABA1286
NSP	9	Back Cover Panel	See Contrast table (2)
	10	Screw	ABA1241
	11	Screw	ABA1296
	12	Cable Clip	AEC1369
	13	Volume Case	ANK1682

(2) CONTRAST TABLE

PRO-730HD/KUXC/CA, PRO-630HD/KUXC/CA and PRO-530HD/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HD/ KUXC/CA	PRO-630HD/ KUXC/CA	PRO-530HD/ KUXC/CA
	1	Rear Cover 64	AMM3221	Not used	Not used
	1	Rear Cover 53, 58	Not used	AMM3220	AMM3220
NSP	9	Back Cover Panel 64	AMM3219	Not used	Not used
NSP	9	Back Cover Panel 53, 58	Not used	AMM3218	AMM3218

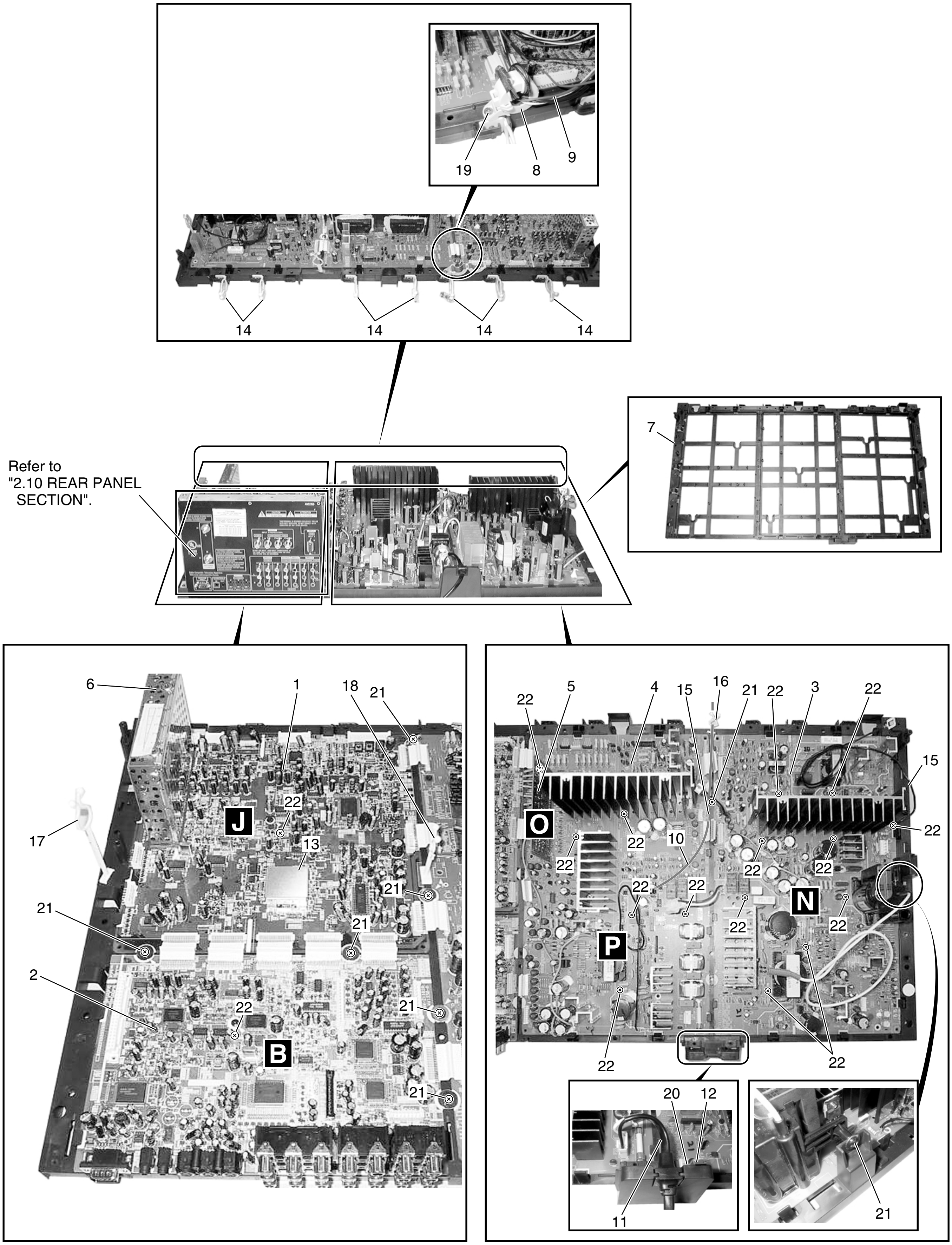
2.8 DVI SECTION


7
7
7
7
7
7
5
7
6
3
6
7
1
7
7
I
4
8
9
9
8
9
9
2

DVI SECTION parts List

Mark	No.	Description	Part No.
	1	DVI SERVICE Assy	AWV1983
	2	Power Switch (S2)	ASG1090
	3	Wire Harness B (J14)	ADX2810
NSP	4	DVI Chassis	ANA1708
NSP	5	DVI Bonnet	ANE1606
NSP	6	Lead Clamper M	AEC1611
	7	Screw	ABZ30P100FZK
	8	Screw	BPZ30P100FZK
	9	Hexagonal Head Screw	BBA1051

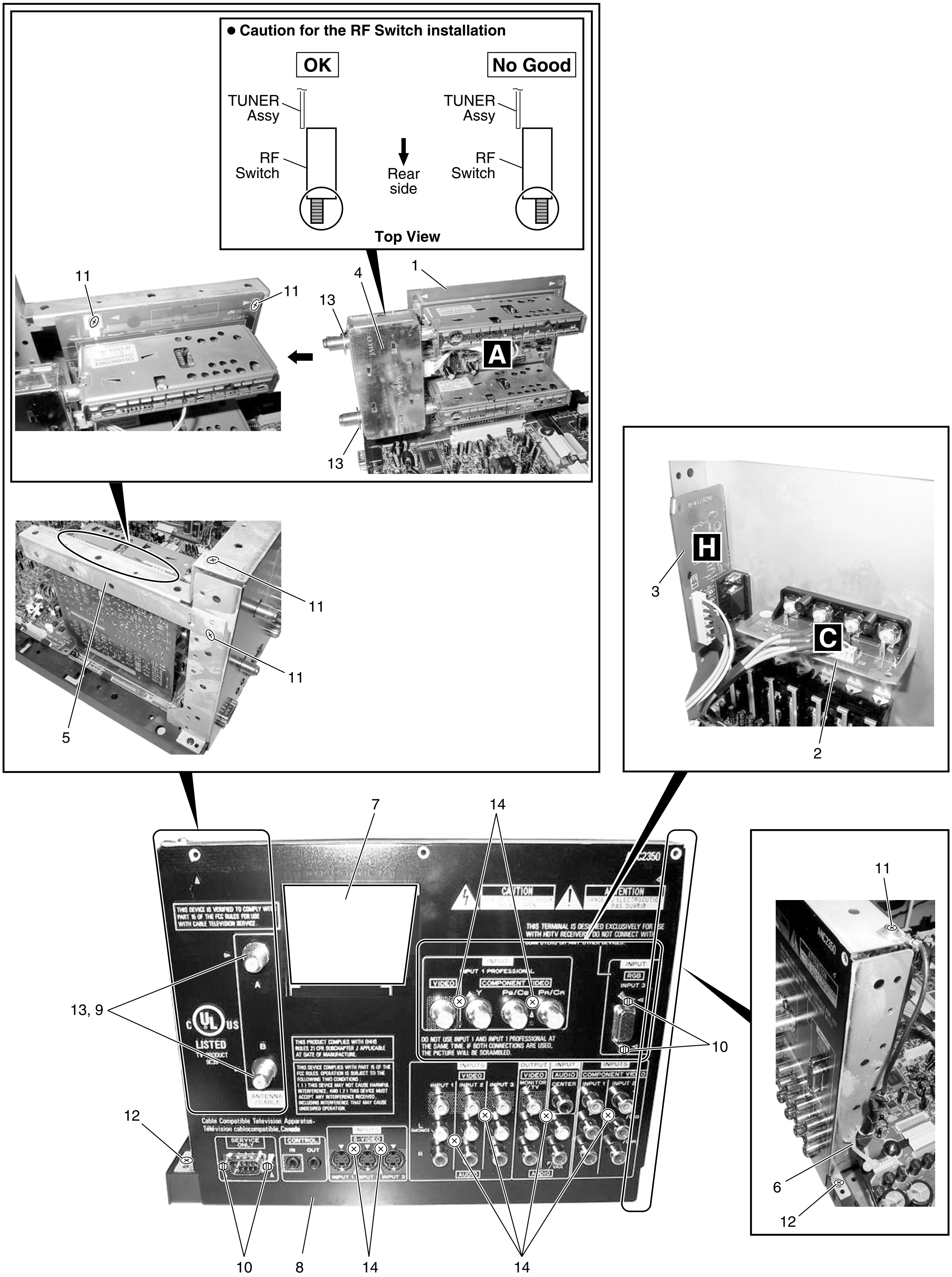
2.9 CHASSIS SECTION


19
8
9
14
14
14
14
7
Refer to "2.10 REAR PANEL SECTION".
6
1
18
21
22
J
17
13
21
21
21
2
22
B
21
21
22
5
4
15
16
21
22
3
22
15
O
22
22
10
22
22
22
22
22
N
22
22
P
22
22
20
12
11
21

CHASSIS SECTION parts List

Mark	No.	Description	Part No.
	1	VIDEO UCOM SERVICE Assy	AWV1992
	2	SIGNAL Assy	AWZ6716
☆	3	DEFLECTION SERVICE Assy	AWV1967
	4	POWER SUPPLY Assy	AWV1960
	5	DIGITAL CONV. Assy	AWV1966
	6	Progressive Unit	AXY1061
NSP	7	Chassis	AMA1013
	8	Ferrite Core (L9)	ATX1045
	9	4P Housing Wire (J13)	ADX2809
	10	2P Housing Wire (J10)	ADX2800
⚠	11	Power Cord	ADG1205
NSP	12	AC Cord Holder	ANG2539
NSP	13	U-COM Shield	ANK1697
NSP	14	Cabinet Wire Holder	AEC1263
NSP	15	Lead Clamper M	AEC1611
	16	Cable Clip	AEC1911
	17	Cord Holder	AEC1257
	18	Cable Clip	AEC1806
	19	Screw	PPZ40P120FMC
	20	Screw	ABZ30P120FZK
	21	Screw	ABA1235
	22	Screw	BPZ30P140FZK

2.10 REAR PANEL SECTION


● Caution for the RF Switch installation
OK
No Good
TUNER Assy
RF Switch
Rear side
TUNER Assy
RF Switch
Top View
11
11
4
1
13
A
13
11
11
5
H
3
C
2
7
14
11
13, 9
10
12
6
12
10
8
14
14

(1) REAR PANEL SECTION parts List

Mark	No.	Description	Part No.
	1	TUNER Assy	AWZ6712
	2	BNC Assy	AWZ6720
	3	D-SUB Assy	AWZ6714
	4	RF Switch	AXF1109
NSP	5	PCB Holder	ANG2520
NSP	6	Cable Clip D3S	AEC1782
NSP	7	ID Label	See Contrast table (2)
	8	Rear Panel	ANC2350
	9	Nut	BBN1005
	10	Hexagonal Head Screw	BBA1051
	11	Screw	BBZ30P080FCU
	12	Screw	BPZ30P140FZK
	13	Washer	WAX0F160N100
	14	Screw	BPZ30P100FZK

(2) CONTRAST TABLE

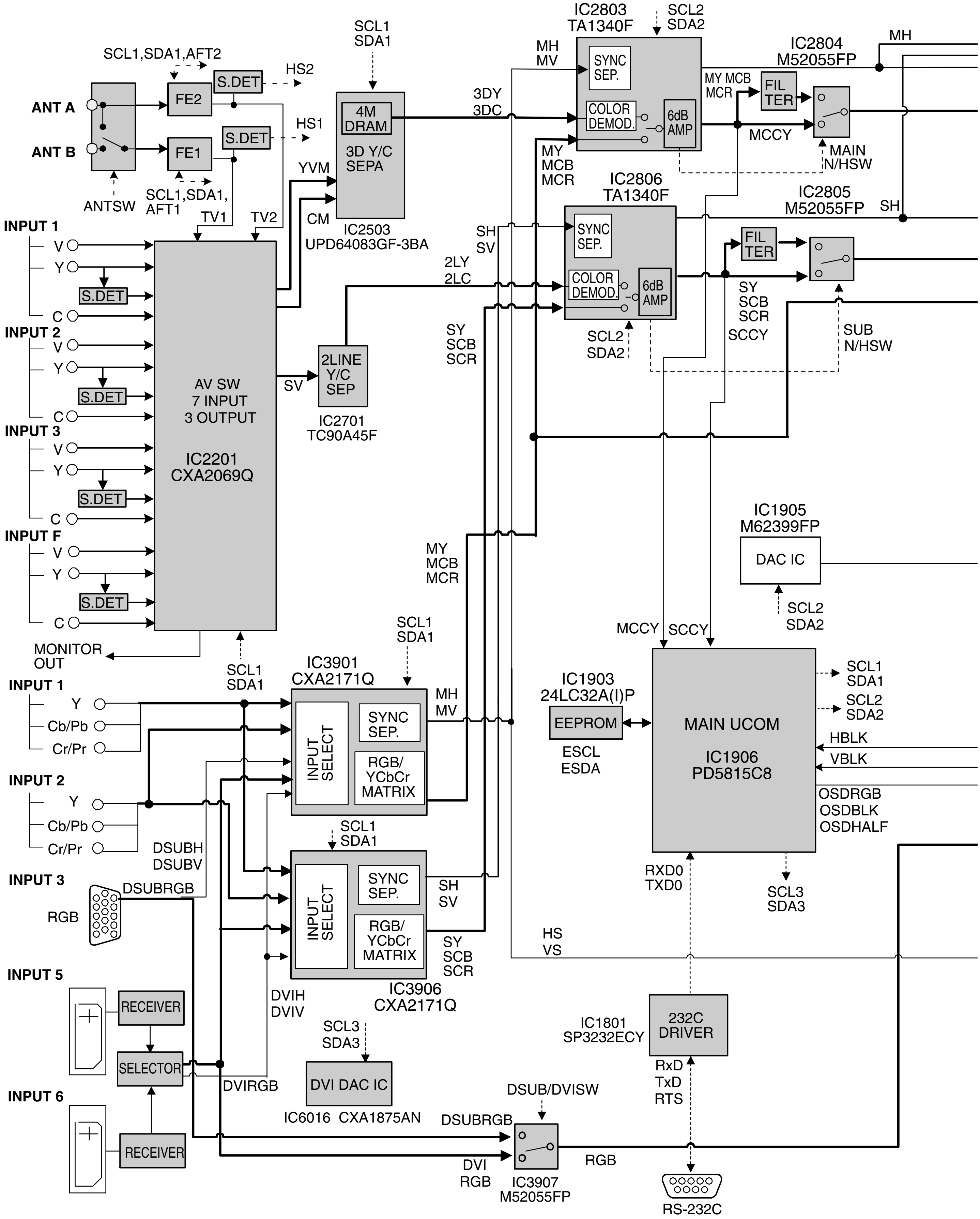
PRO-730HD/KUXC/CA, PRO-630HD/KUXC/CA and PRO-530HD/KUXC/CA are constructed the same except for the following :

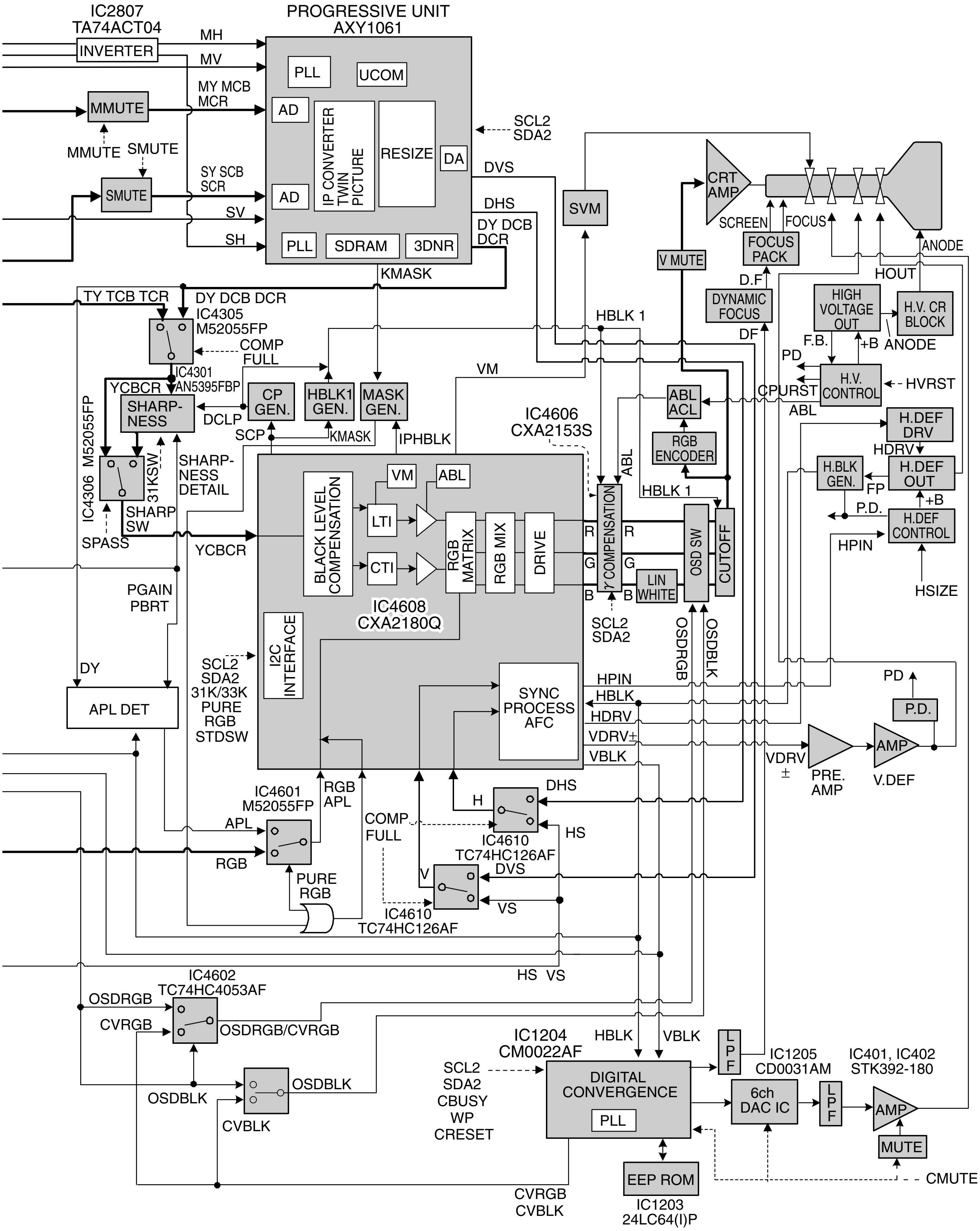
Mark	No.	Symbol and Description	PRO-730HD/ KUXC/CA	PRO-630HD/ KUXC/CA	PRO-530HD/ KUXC/CA
NSP	7	ID Label 64	AAL2409	Not used	Not used
NSP	7	ID Label 58	Not used	AAL2408	Not used
NSP	7	ID Label 53	Not used	Not used	AAL2407

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

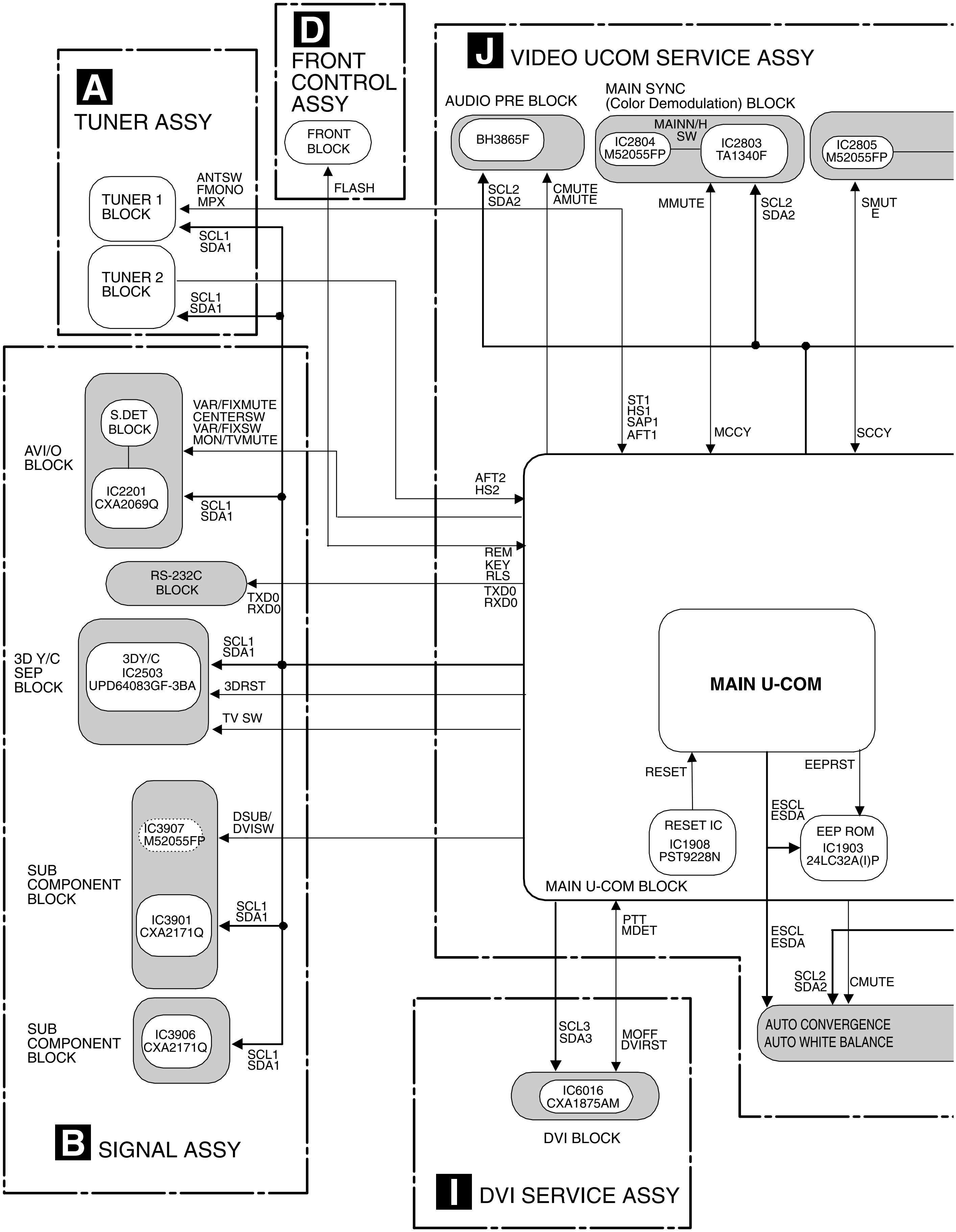
3.1 BLOCK DIAGRAM

3.1.1 VIDEO BLOCK

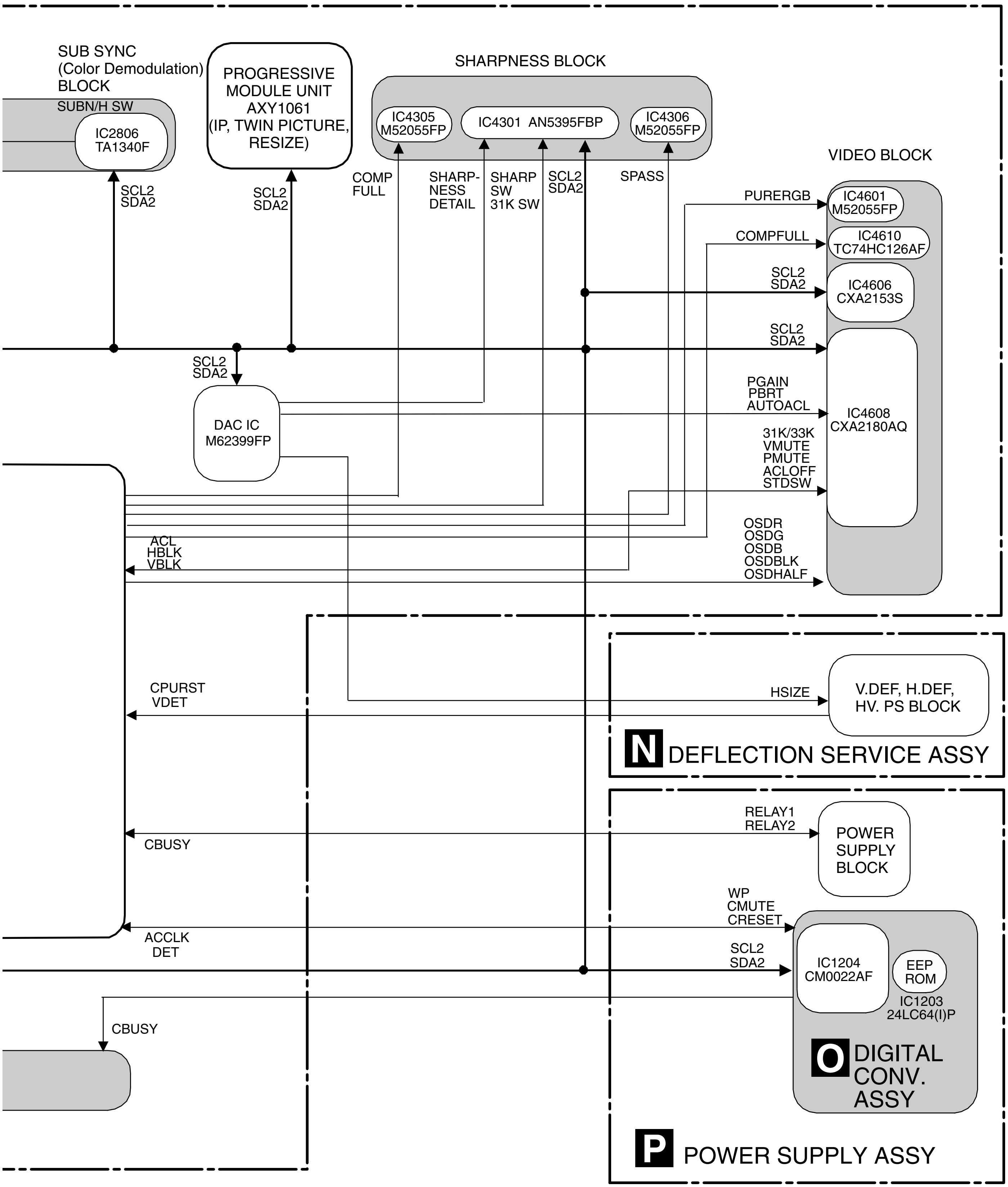

SCL1,SDA1,AFT2
FE2
S.DET
HS2
ANT A
ANT B
FE1
S.DET
HS1
ANTSW
SCL1,SDA1,
AFT1
TV1
TV2
SCL1
SDA1
4M
DRAM
3D Y/C
SEPA
YVM
CM
IC2503
UPD64083GF-3BA
3DY
3DC
IC2803
TA1340F
SCL2
SDA2
MH
MV
SYNC
SEP.
COLOR
DEMOD.
6dB
AMP
MY MCB
MCR
FIL
TER
IC2804
M52055FP
MH
MCCY
MAIN
N/HSW
MY
MCB
MCR
IC2806
TA1340F
IC2805
M52055FP
SH
SH
SV
SYNC
SEP.
COLOR
DEMOD.
6dB
AMP
FIL
TER
2LY
2LC
SY
SCB
SCR
SCCY
SUB
N/HSW
SCL2
SDA2
SY
SCB
SCR
INPUT 1
V
Y
S.DET
C
INPUT 2
V
Y
S.DET
C
INPUT 3
V
Y
S.DET
C
INPUT F
V
Y
S.DET
C
AV SW
7 INPUT
3 OUTPUT
IC2201
CXA2069Q
SV
2LINE
Y/C
SEP
IC2701
TC90A45F
MONITOR
OUT
SCL1
SDA1
IC1905
M62399FP
DAC IC
SCL2
SDA2
MY
MCB
MCR
MCCY
SCCY
SCL1
SDA1
IC3901
CXA2171Q
MH
MV
INPUT
SELECT
SYNC
SEP.
RGB/
YCbCr
MATRIX
IC1903
24LC32A(I)P
EEPROM
ESCL
ESDA
MAIN UCOM
IC1906
PD5815C8
SCL1
SDA1
SCL2
SDA2
HBLK
VBLK
OSDRGB
OSDBLK
OSDHALF
INPUT 1
Y
Cb/Pb
Cr/Pr
INPUT 2
Y
Cb/Pb
Cr/Pr
DSUBH
DSUBV
SCL1
SDA1
INPUT 3
DSUBRGB
RGB
INPUT
SELECT
SYNC
SEP.
RGB/
YCbCr
MATRIX
SH
SV
SY
SCB
SCR
IC3906
CXA2171Q
RXD0
TXD0
SCL3
SDA3
HS
VS
INPUT 5
RECEIVER
SELECTOR
DVIH
DVIV
DVIRGB
SCL3
SDA3
DVI DAC IC
IC6016 CXA1875AN
IC1801
SP3232ECY
232C
DRIVER
RxD
TxD
RTS
INPUT 6
RECEIVER
DSUB/DVISW
DSUBRGB
DVI
RGB
IC3907
M52055FP
RGB
RS-232C


IC2807
TA74ACT04
INVERTER
MH
MV
PROGRESSIVE UNIT
AXY1061
PLL
UCOM
MY MCB
MCR
MMUTE
AD
IP CONVERTER
TWIN
PICTURE
RESIZE
DA
SCL2
SDA2
MMUTE
SMUTE
SMUTE
SY SCB
SCR
AD
DVS
SV
DHS
SH
PLL
SDRAM
3DNR
DY DCB
DCR
SVM
CRT
AMP
SCREEN
FOCUS
FOCUS
PACK
ANODE
V MUTE
KMASK
TY TCB TCR
DY DCB DCR
IC4305
M52055FP
COMP
FULL
HBLK 1
D.F
DYNAMIC
FOCUS
DF
HOUT
HIGH
VOLTAGE
OUT
H.V. CR
BLOCK
F.B.
+B
ANODE
PD
H.V.
CONTROL
HVRST
CPURST
ABL
IC4301
AN5395FBP
YCBCR
SHARP-
NESS
DCLP
CP
GEN.
HBLK1
GEN.
MASK
GEN.
VM
ABL
ACL
IC4606
CXA2153S
RGB
ENCODER
H.DEF
DRV
HDRV
IC4306 M52055FP
31KSW
SHARP-
NESS
DETAIL
SCP
KMASK
IPHBLK
BLACK LEVEL
COMPENSATION
VM
ABL
LTI
CTI
RGB
MATRIX
RGB MIX
DRIVE
R
G
B
γ COMPENSATION
ABL
HBLK 1
R
G
B
LIN
WHITE
OSD SW
CUTOFF
H.BLK
GEN.
H.DEF
OUT
FP
+B
P.D.
H.DEF
CONTROL
HPIN
HSIZE
SHARP
SW
SPASS
YCBCR
PGAIN
PBRT
IC4608
CXA2180Q
SCL2
SDA2
OSDRGB
OSDBLK
I2C
INTERFACE
DY
APL DET
SCL2
SDA2
31K/33K
PURE
RGB
STDSW
SYNC
PROCESS
AFC
HPIN
HBLK
HDRV
VDRV±
VBLK
PD
P.D.
PRE.
AMP
AMP
V.DEF
VDRV
±
IC4601
M52055FP
APL
RGB
APL
RGB
PURE
RGB
COMP
FULL
H
DHS
IC4610
TC74HC126AF
HS
DVS
V
VS
IC4610
TC74HC126AF
HS VS
IC4602
TC74HC4053AF
OSDRGB
CVRGB
OSDRGB/CVRGB
IC1204
CM0022AF
HBLK
VBLK
L
P
F
IC1205
CD0031AM
IC401, IC402
STK392-180
SCL2
SDA2
CBUSY
WP
CRESET
DIGITAL
CONVERGENCE
PLL
6ch
DAC IC
L
P
F
AMP
OSDBLK
OSDBLK
CVBLK
MUTE
CMUTE
EEP ROM
CVRGB
CVBLK
IC1203
24LC64(I)P

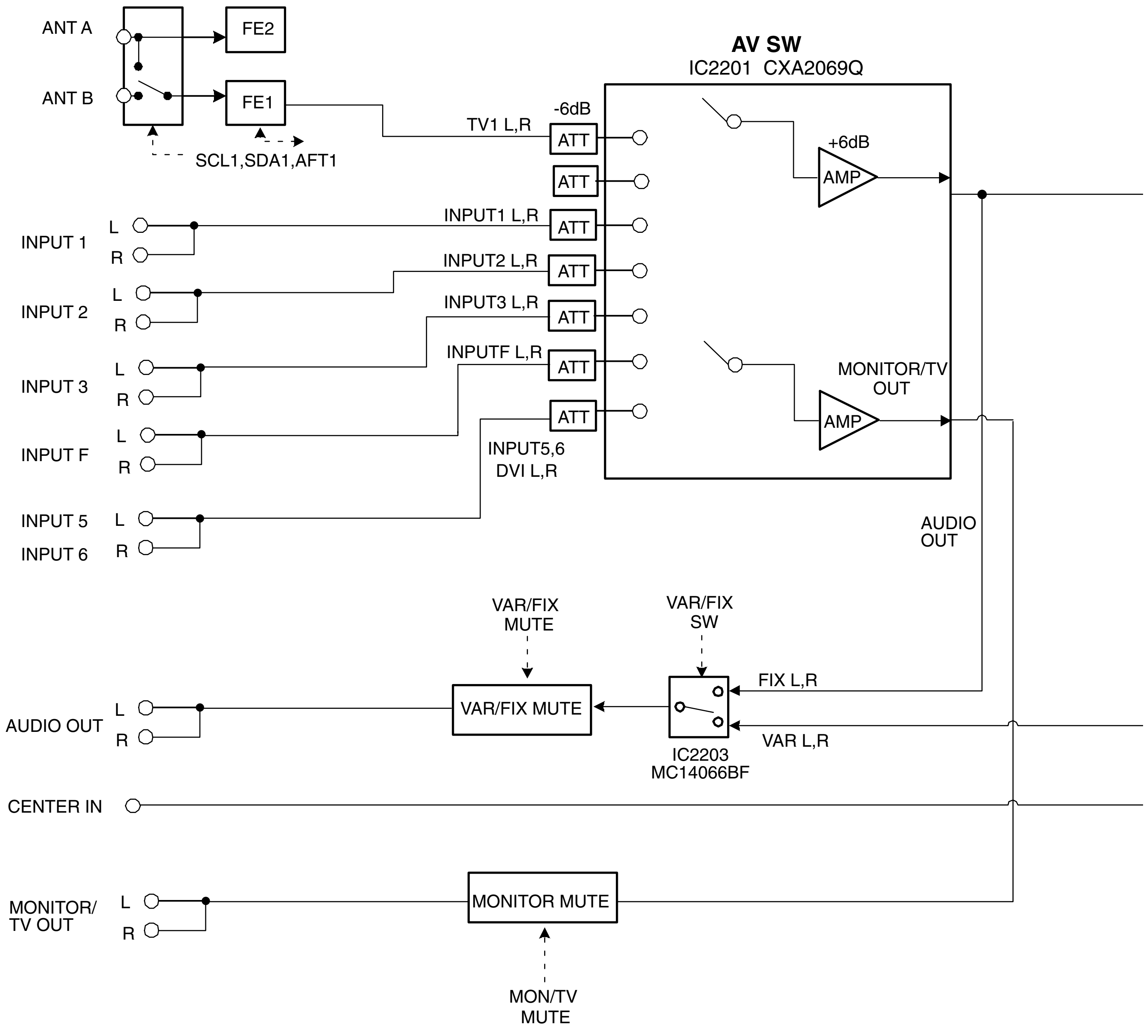
3.1.2 CONTROL BLOCK

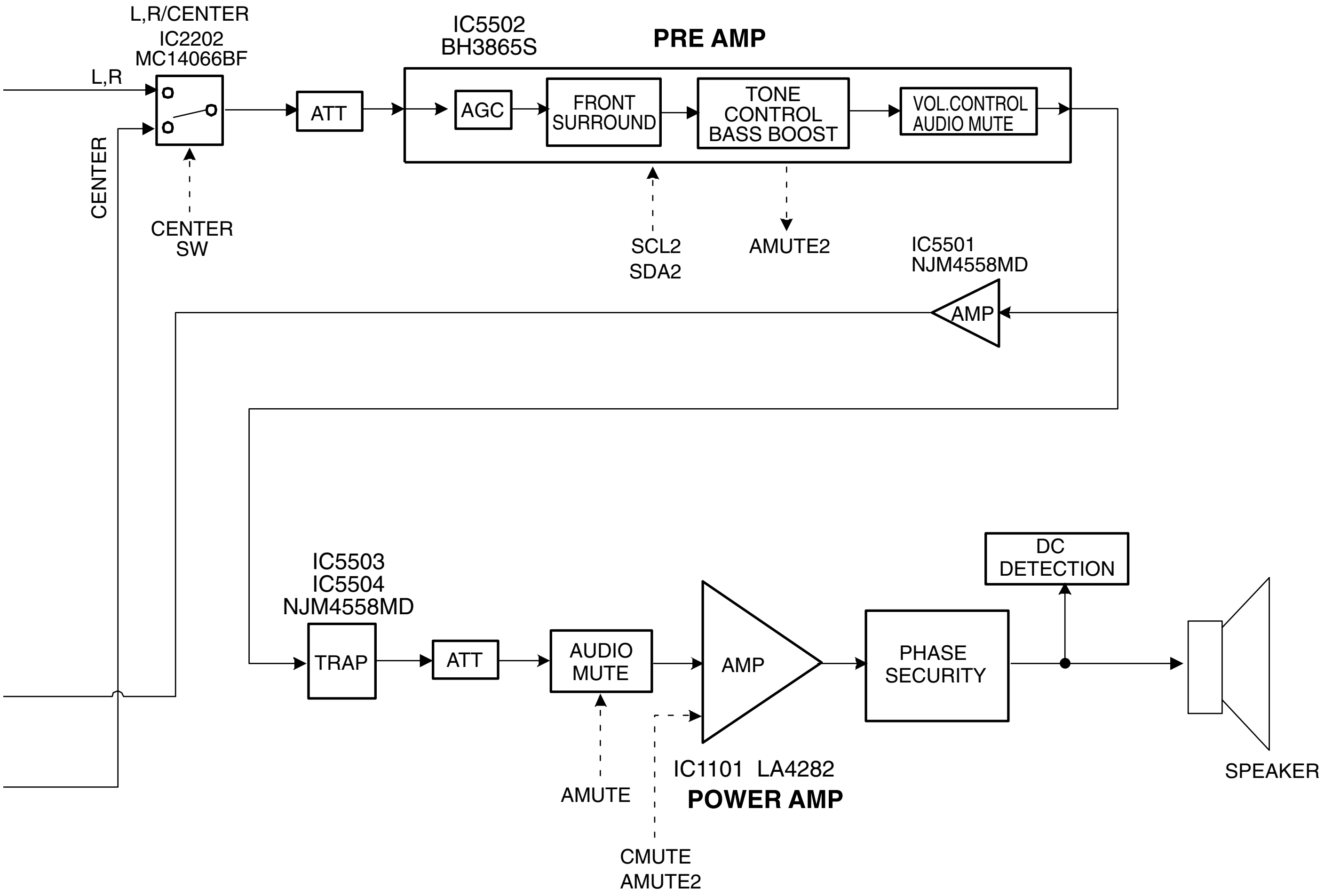


A
TUNER ASSY
TUNER 1 BLOCK
TUNER 2 BLOCK
ANTSW
FMONO
MPX
SCL1
SDA1
D
FRONT CONTROL ASSY
FRONT BLOCK
FLASH
J
VIDEO UCOM SERVICE ASSY
AUDIO PRE BLOCK
BH3865F
MAIN SYNC (Color Demodulation) BLOCK
MAINN/H SW
IC2804 M52055FP
IC2803 TA1340F
IC2805 M52055FP
SCL2
SDA2
CMUTE
AMUTE
MMUTE
SMUTE
ST1
HS1
SAP1
AFT1
MCCY
SCCY
AFT2
HS2
REM
KEY
RLS
TXD0
RXD0
MAIN U-COM
RESET
EEPRST
ESCL
ESDA
RESET IC
IC1908
PST9228N
EEP ROM
IC1903
24LC32A(I)P
MAIN U-COM BLOCK
PTT
MDET
CMUTE
AUTO CONVERGENCE
AUTO WHITE BALANCE
AV I/O BLOCK
S.DET BLOCK
IC2201 CXA2069Q
VAR/FIXMUTE
CENTERSW
VAR/FIXSW
MON/TVMUTE
RS-232C BLOCK
3D Y/C SEP BLOCK
3DY/C IC2503 UPD64083GF-3BA
3DRST
TV SW
SUB COMPONENT BLOCK
IC3907 M52055FP
IC3901 CXA2171Q
DSUB/ DVISW
SUB COMPONENT BLOCK
IC3906 CXA2171Q
B
SIGNAL ASSY
SCL3
SDA3
MOFF
DVIRST
IC6016 CXA1875AM
DVI BLOCK
I
DVI SERVICE ASSY


SUB SYNC
(Color Demodulation)
BLOCK
SUBN/H SW
IC2806
TA1340F
PROGRESSIVE
MODULE UNIT
AXY1061
(IP, TWIN PICTURE,
RESIZE)
SHARPNESS BLOCK
IC4305
M52055FP
IC4301 AN5395FBP
IC4306
M52055FP
SCL2
SDA2
SCL2
SDA2
COMP
FULL
SHARP-
NESS
DETAIL
SHARP
SW
31K SW
SCL2
SDA2
SPASS
VIDEO BLOCK
PURERGB
IC4601
M52055FP
COMPFULL
IC4610
TC74HC126AF
SCL2
SDA2
IC4606
CXA2153S
SCL2
SDA2
SCL2
SDA2
PGAIN
PBRT
AUTOACL
DAC IC
M62399FP
IC4608
CXA2180AQ
31K/33K
VMUTE
PMUTE
ACLOFF
STDSW
ACL
HBLK
VBLK
OSDR
OSDG
OSDB
OSDBLK
OSDHALF
CPURST
VDET
HSIZE
V.DEF, H.DEF,
HV. PS BLOCK
N DEFLECTION SERVICE ASSY
RELAY1
RELAY2
CBUSY
POWER
SUPPLY
BLOCK
WP
CMUTE
CRESET
ACCLK
DET
SCL2
SDA2
IC1204
CM0022AF
EEP
ROM
IC1203
24LC64(I)P
CBUSY
O DIGITAL
CONV.
ASSY
P POWER SUPPLY ASSY

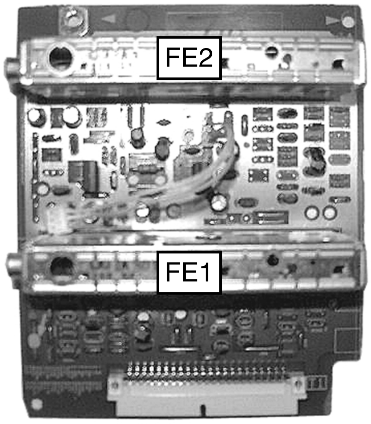
3.1.3 AUDIO BLOCK


ANT A
ANT B
FE2
FE1
SCL1,SDA1,AFT1
AV SW
IC2201 CXA2069Q
-6dB
TV1 L,R
ATT
ATT
INPUT1 L,R
ATT
INPUT2 L,R
ATT
INPUT3 L,R
ATT
INPUTF L,R
ATT
ATT
INPUT5,6
DVI L,R
+6dB
AMP
MONITOR/TV
OUT
AMP
INPUT 1
L
R
INPUT 2
L
R
INPUT 3
L
R
INPUT F
L
R
INPUT 5
INPUT 6
L
R
AUDIO
OUT
VAR/FIX
MUTE
VAR/FIX
SW
FIX L,R
VAR/FIX MUTE
VAR L,R
IC2203
MC14066BF
AUDIO OUT
L
R
CENTER IN
MONITOR/
TV OUT
L
R
MONITOR MUTE
MON/TV
MUTE

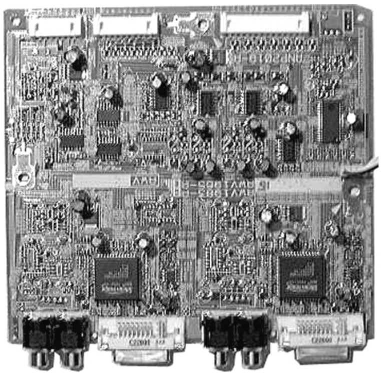

L,R/CENTER
IC2202
MC14066BF
L,R
CENTER
CENTER
SW
ATT
IC5502
BH3865S
PRE AMP
AGC
FRONT
SURROUND
TONE
CONTROL
BASS BOOST
VOL.CONTROL
AUDIO MUTE
SCL2
SDA2
AMUTE2
IC5501
NJM4558MD
AMP
IC5503
IC5504
NJM4558MD
TRAP
ATT
AUDIO
MUTE
AMUTE
AMP
IC1101 LA4282
POWER AMP
CMUTE
AMUTE2
PHASE
SECURITY
DC
DETECTION
SPEAKER

3.1.4 TUNER, SIGNAL and DVI SERVICE ASSYS

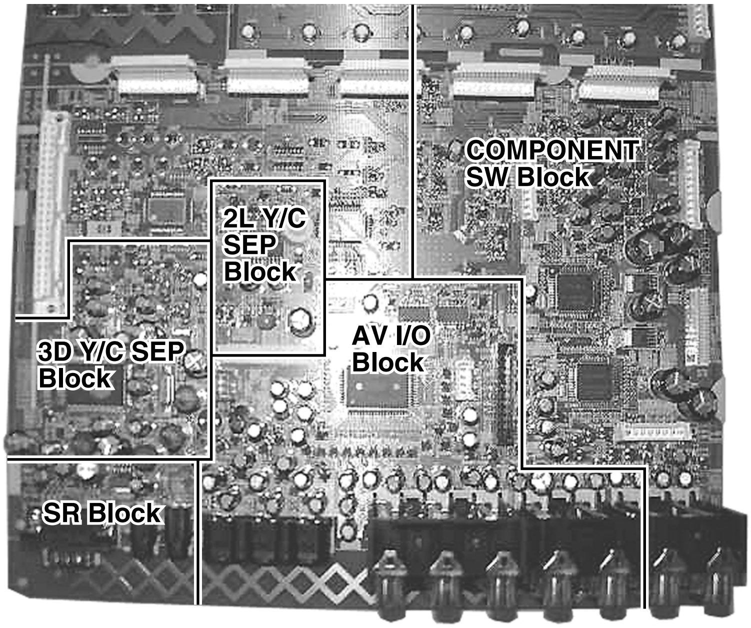
A TUNER ASSY

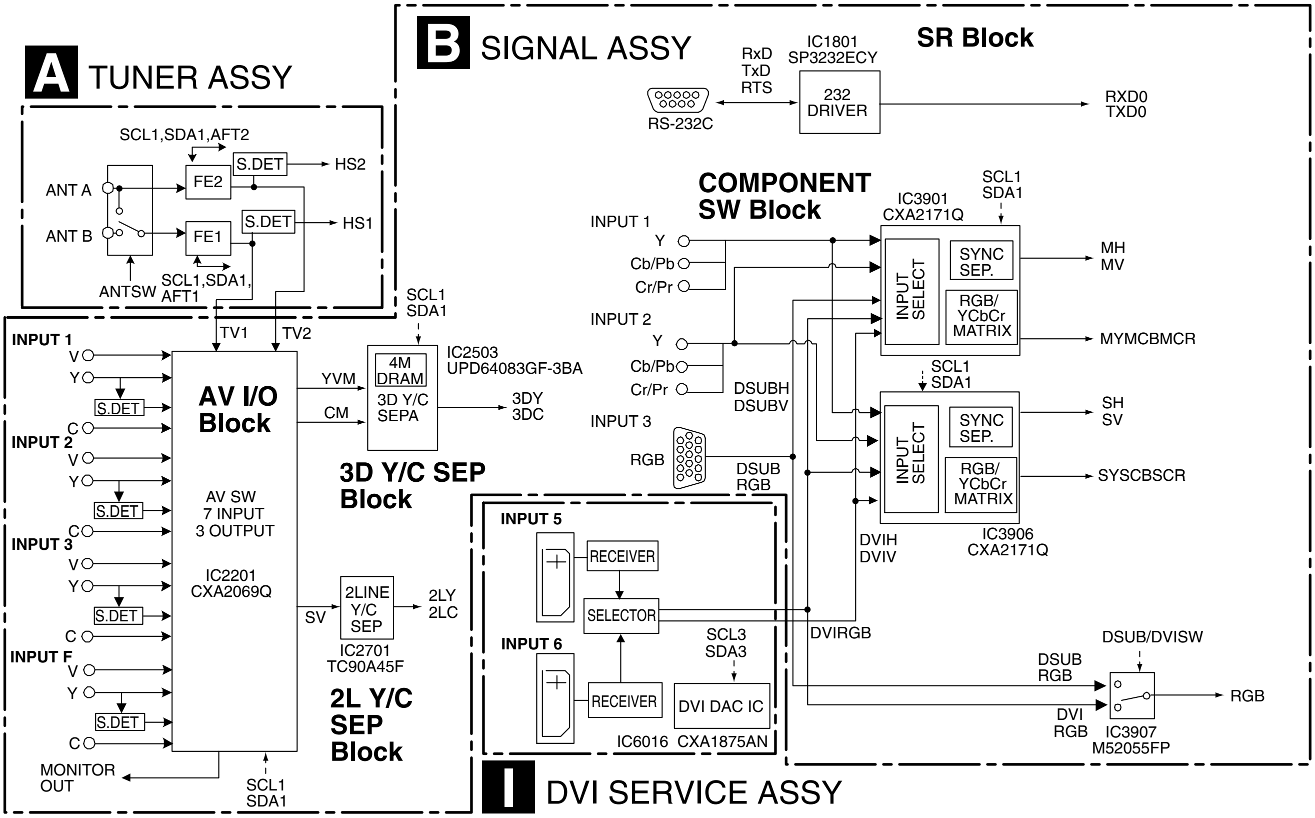


I DVI SERVICE ASSY



B SIGNAL ASSY

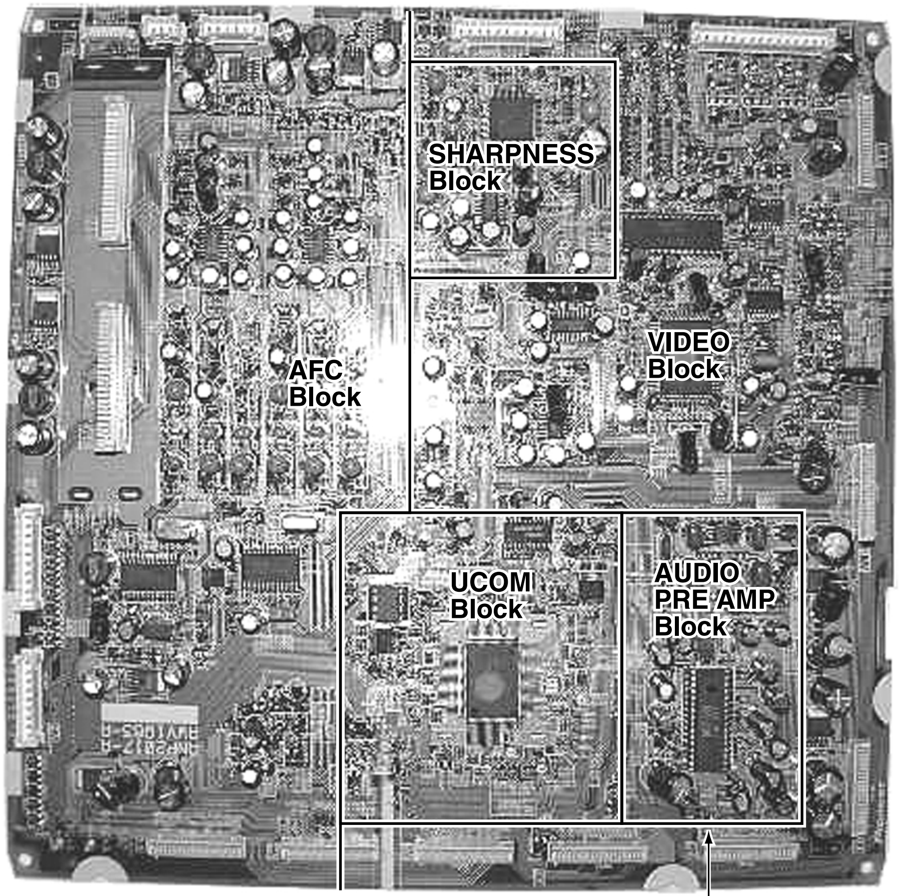

COMPONENT SW Block
2L Y/C SEP Block
3D Y/C SEP Block
AV I/O Block
SR Block

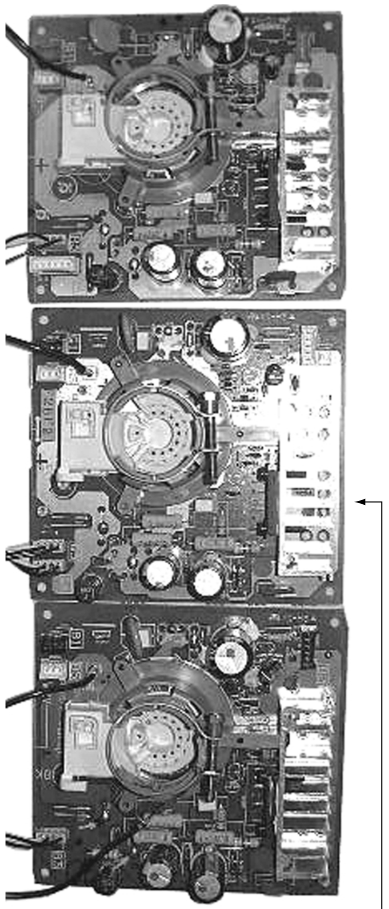

B SIGNAL ASSY
SR Block
RS-232C
RxD
TxD
RTS
IC1801
SP3232ECY
232 DRIVER
RXD0
TXD0
A TUNER ASSY
SCL1,SDA1,AFT2
ANT A
ANT B
FE2
FE1
S.DET
S.DET
HS2
HS1
ANTSW
SCL1,SDA1,AFT1
TV1
TV2
INPUT 1
V
Y
S.DET
C
INPUT 2
V
Y
S.DET
C
INPUT 3
V
Y
S.DET
C
INPUT F
V
Y
S.DET
C
MONITOR OUT
AV I/O Block
AV SW
7 INPUT
3 OUTPUT
IC2201
CXA2069Q
SCL1
SDA1
YVM
CM
SV
SCL1
SDA1
4M DRAM
3D Y/C SEPA
IC2503
UPD64083GF-3BA
3DY
3DC
3D Y/C SEP Block
2LINE Y/C SEP
IC2701
TC90A45F
2LY
2LC
2L Y/C SEP Block
COMPONENT SW Block
INPUT 1
Y
Cb/Pb
Cr/Pr
INPUT 2
Y
Cb/Pb
Cr/Pr
INPUT 3
RGB
DSUBH
DSUBV
DSUB
RGB
IC3901
CXA2171Q
SCL1
SDA1
INPUT SELECT
SYNC SEP.
RGB/YCbCr MATRIX
MH
MV
MYMCBMCR
SCL1
SDA1
INPUT SELECT
SYNC SEP.
RGB/YCbCr MATRIX
SH
SV
SYSCBSCR
IC3906
CXA2171Q
DVIH
DVIV
DVIRGB
INPUT 5
RECEIVER
SELECTOR
INPUT 6
RECEIVER
SCL3
SDA3
DVI DAC IC
IC6016 CXA1875AN
I DVI SERVICE ASSY
DSUB/DVISW
DSUB
RGB
DVI
RGB
RGB
IC3907
M52055FP

3.1.5 VIDEO UCOM and R,G,B CRT DRIVE ASSYS

J VIDEO UCOM SERVICE ASSY

K R CRT DRIVE ASSY


SHARPNESS Block
AFC Block
VIDEO Block
UCOM Block
AUDIO PRE AMP Block

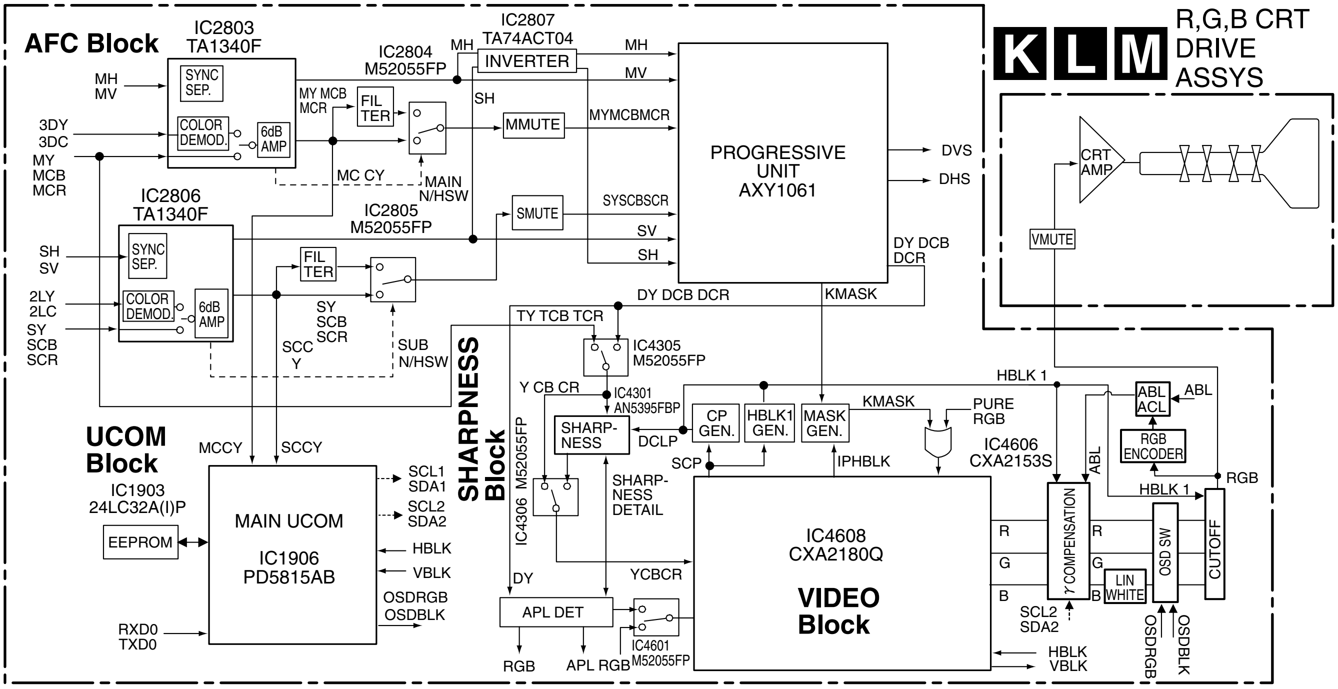


Refer to "3.1.3 Audio Block".

M B CRT DRIVE ASSY

L G CRT DRIVE ASSY

J VIDEO UCOM SERVICE ASSY

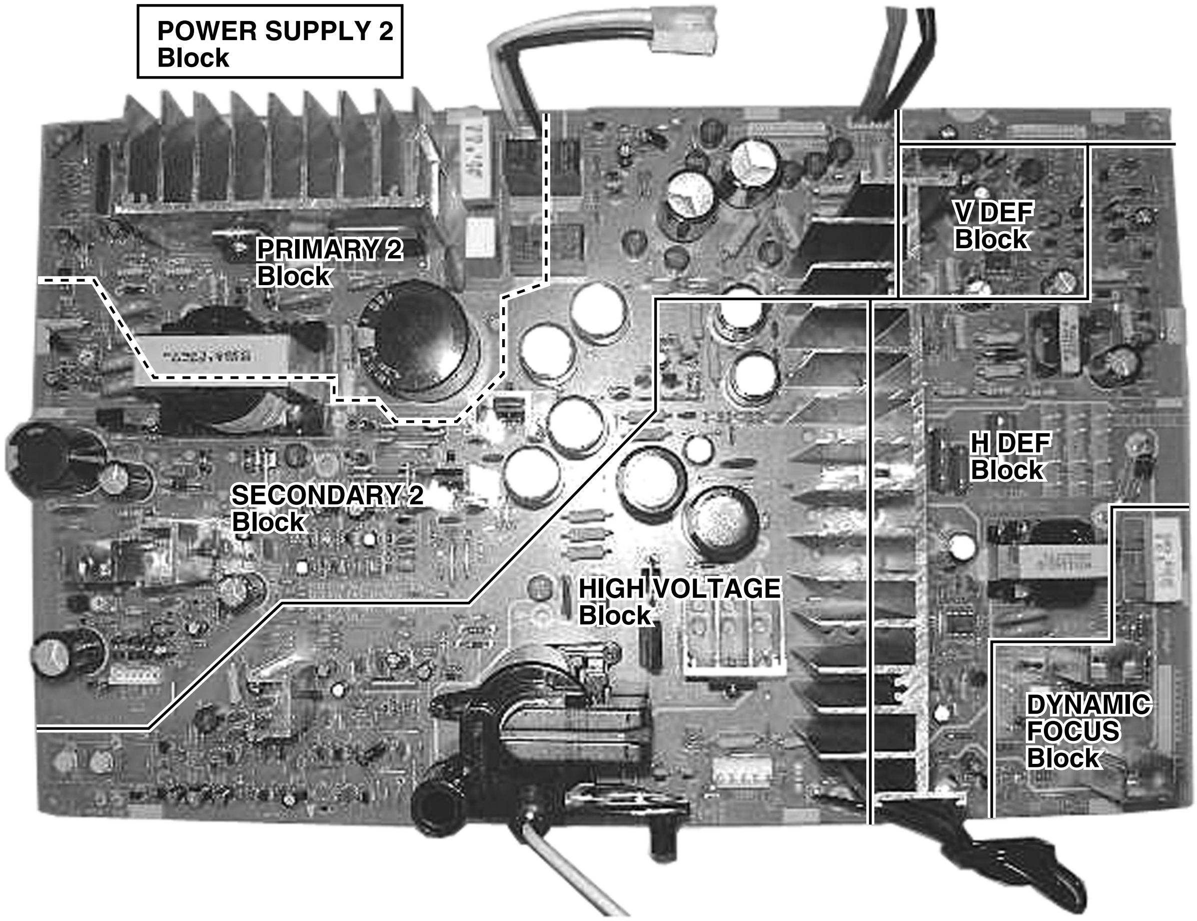

AFC Block
IC2803
TA1340F
MH
MV
SYNC SEP.
3DY
3DC
MY
MCB
MCR
COLOR DEMOD.
6dB AMP
IC2804
M52055FP
MY MCB
MCR
FIL TER
MH
IC2807
TA74ACT04
INVERTER
SH
MMUTE
MYMCBMCR
MH
MV
MC CY
MAIN N/HSW
IC2806
TA1340F
IC2805
M52055FP
SMUTE
SYSCBSCR
SV
SH
SH
SV
SYNC SEP.
2LY
2LC
SY
SCB
SCR
COLOR DEMOD.
6dB AMP
FIL TER
SY
SCB
SCR
SCC
Y
SUB N/HSW
PROGRESSIVE UNIT
AXY1061
DVS
DHS
DY DCB DCR
DY DCB DCR
KMASK
TY TCB TCR
IC4305
M52055FP
SHARPNESS Block
UCOM Block
IC1903
24LC32A(I)P
EEPROM
MCCY
SCCY
MAIN UCOM
IC1906
PD5815AB
SCL1
SDA1
SCL2
SDA2
HBLK
VBLK
OSDRGB
OSDBLK
RXD0
TXD0
Y CB CR
IC4301
AN5395FBP
SHARP-NESS
DCLP
CP GEN.
HBLK1 GEN.
MASK GEN.
KMASK
PURE RGB
HBLK 1
ABL ACL
ABL
RGB ENCODER
IC4306 M52055FP
SHARP-NESS DETAIL
SCP
IPHBLK
IC4606
CXA2153S
ABL
RGB
HBLK 1
IC4608
CXA2180Q
VIDEO Block
R
G
B
Y COMPENSATION
R
G
B
LIN WHITE
OSD SW
CUTOFF
SCL2
SDA2
HBLK
VBLK
OSDRGB
OSDBLK
DY
YCBCR
APL DET
IC4601
M52055FP
RGB
APL RGB

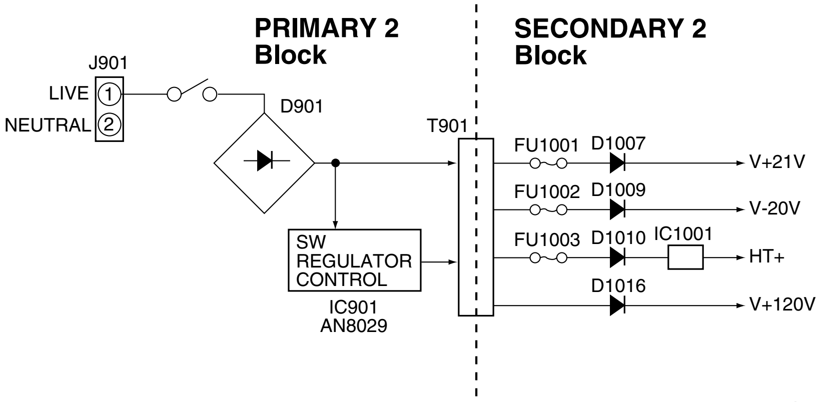
K L M R,G,B CRT DRIVE ASSYS

CRT AMP
VMUTE

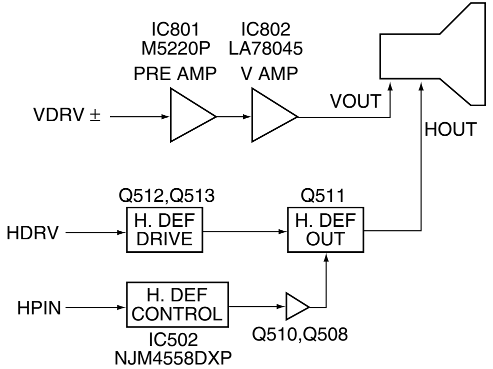
3.1.6 DEFLECTION SERVICE ASSY

N DEFLECTION SERVICE ASSY

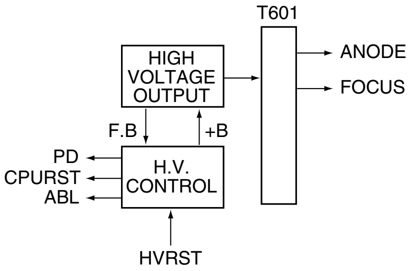

POWER SUPPLY 2 Block
PRIMARY 2 Block
SECONDARY 2 Block
HIGH VOLTAGE Block
V DEF Block
H DEF Block
DYNAMIC FOCUS Block


PRIMARY 2 Block
SECONDARY 2 Block
J901
LIVE ①
NEUTRAL ②
D901
T901
SW REGULATOR CONTROL
IC901
AN8029
FU1001
D1007
V+21V
FU1002
D1009
V-20V
FU1003
D1010
IC1001
HT+
D1016
V+120V

V DEF Block

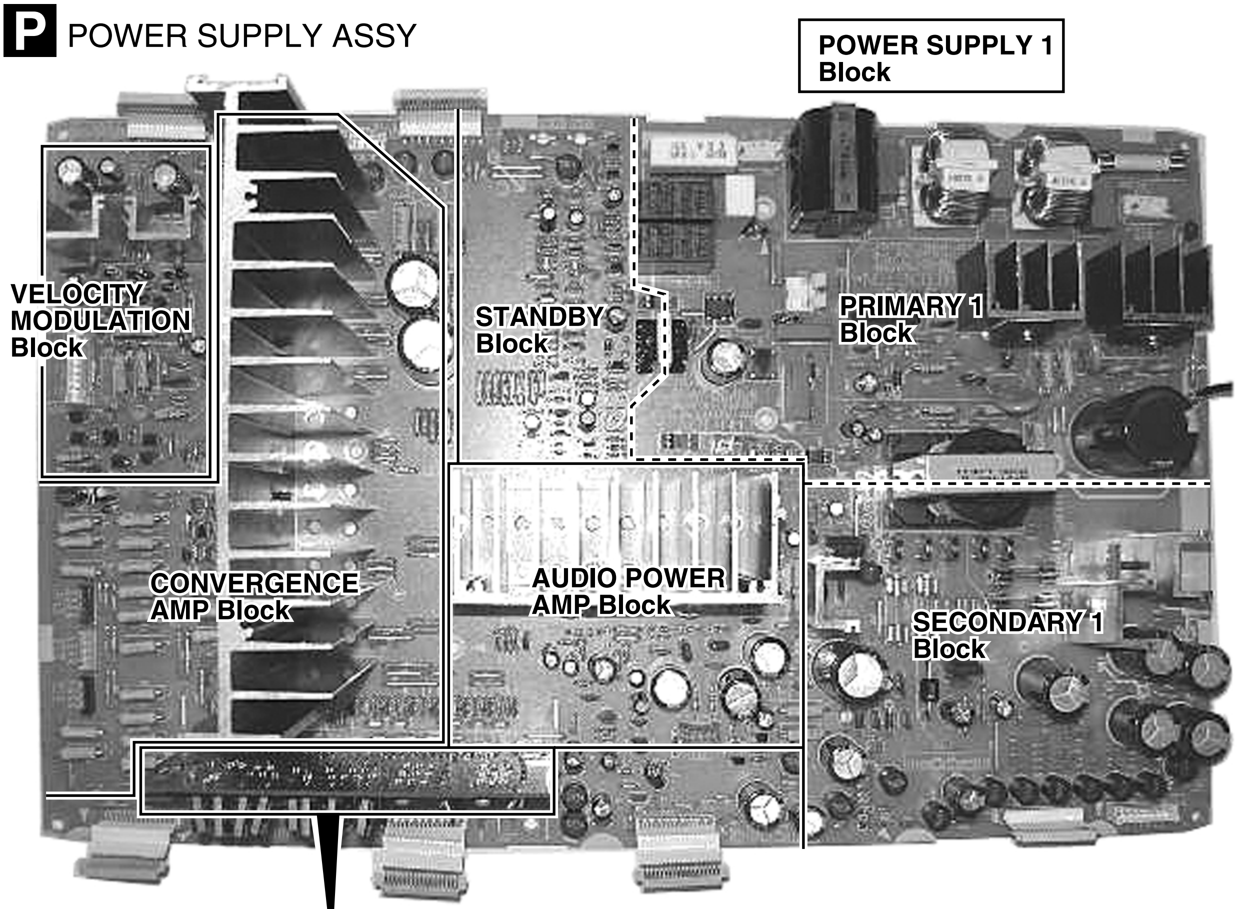

IC801
M5220P
PRE AMP
IC802
LA78045
V AMP
VDRV ±
VOUT
HOUT
Q512,Q513
H. DEF DRIVE
Q511
H. DEF OUT
HDRV
HPIN
H. DEF CONTROL
IC502
NJM4558DXP
Q510,Q508

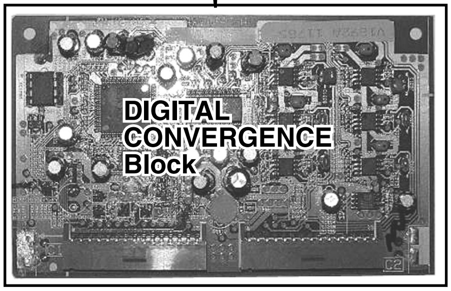
HIGH VOLTAGE Block


T601
HIGH VOLTAGE OUTPUT
ANODE
FOCUS
F.B
+B
PD
CPURST
ABL
H.V. CONTROL
HVRST

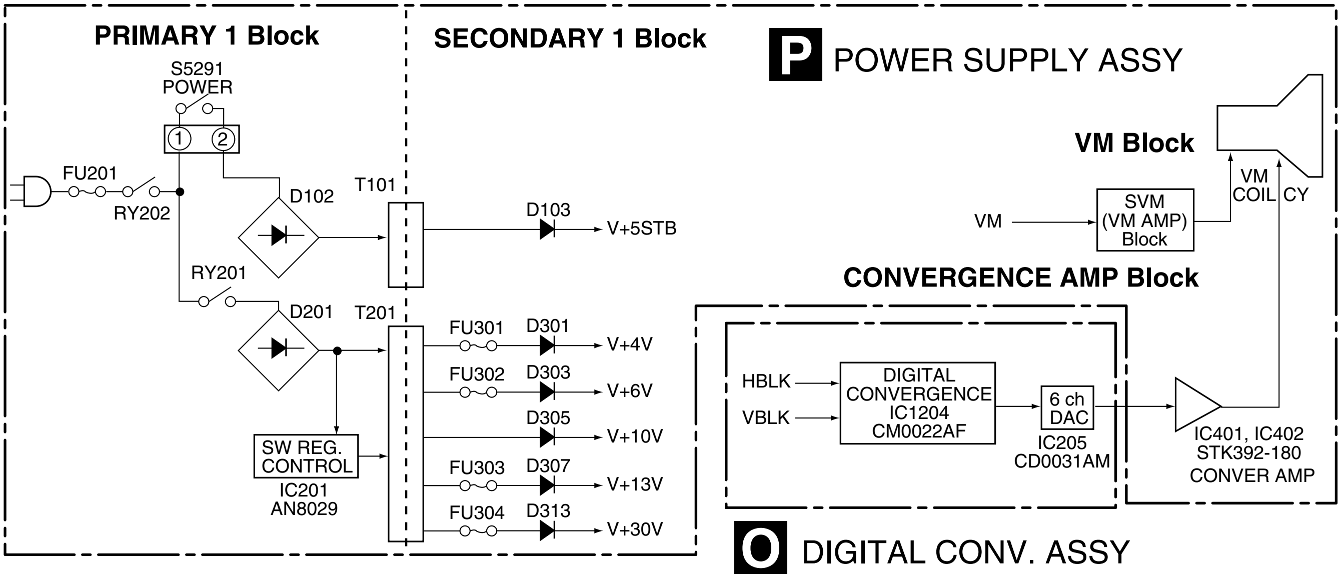
3.1.7 DIGITAL CONV. and POWER SUPPLY ASSYS

P POWER SUPPLY ASSY

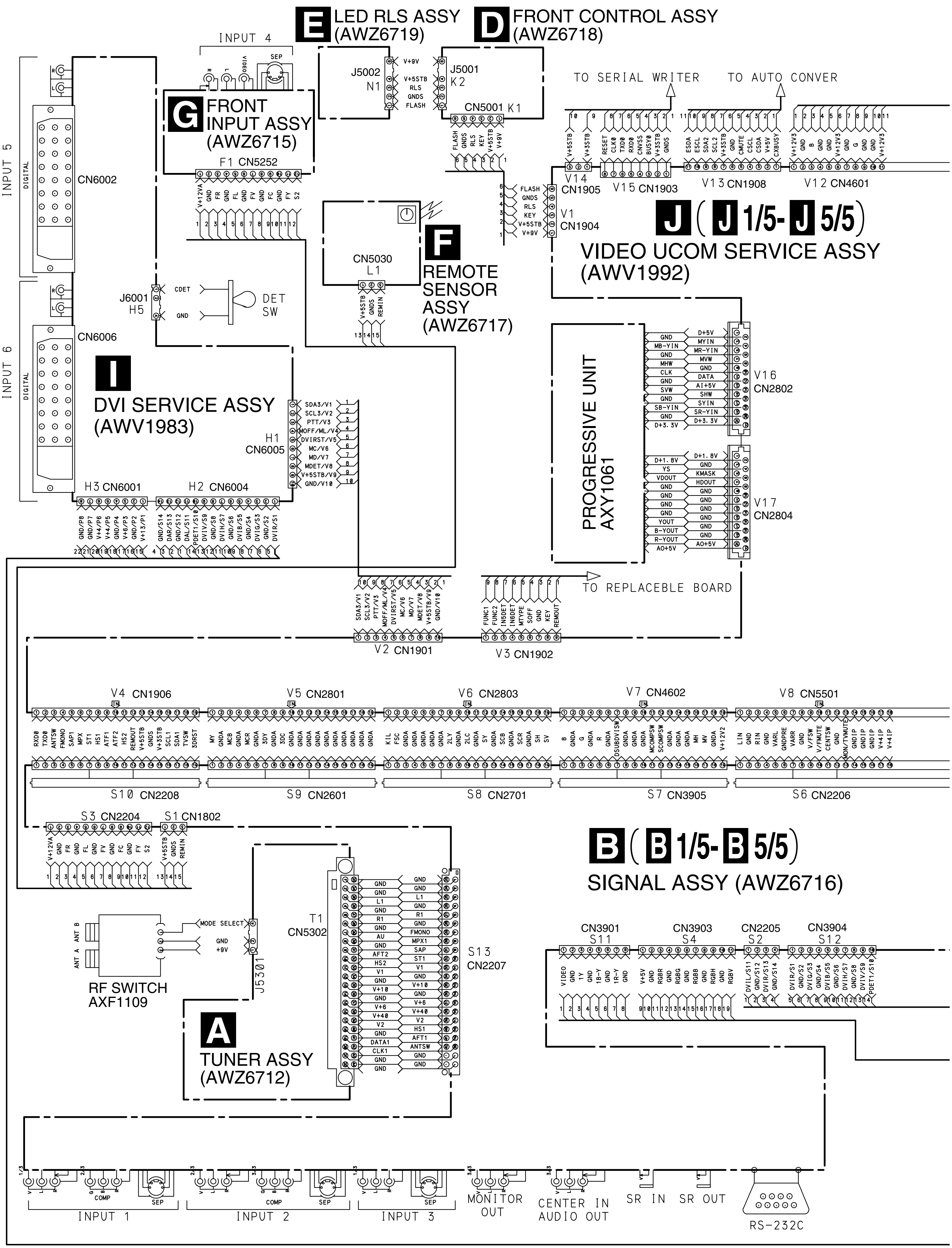

POWER SUPPLY 1 Block
VELOCITY MODULATION Block
STANDBY Block
PRIMARY 1 Block
CONVERGENCE AMP Block
AUDIO POWER AMP Block
SECONDARY 1 Block


DIGITAL CONVERGENCE Block

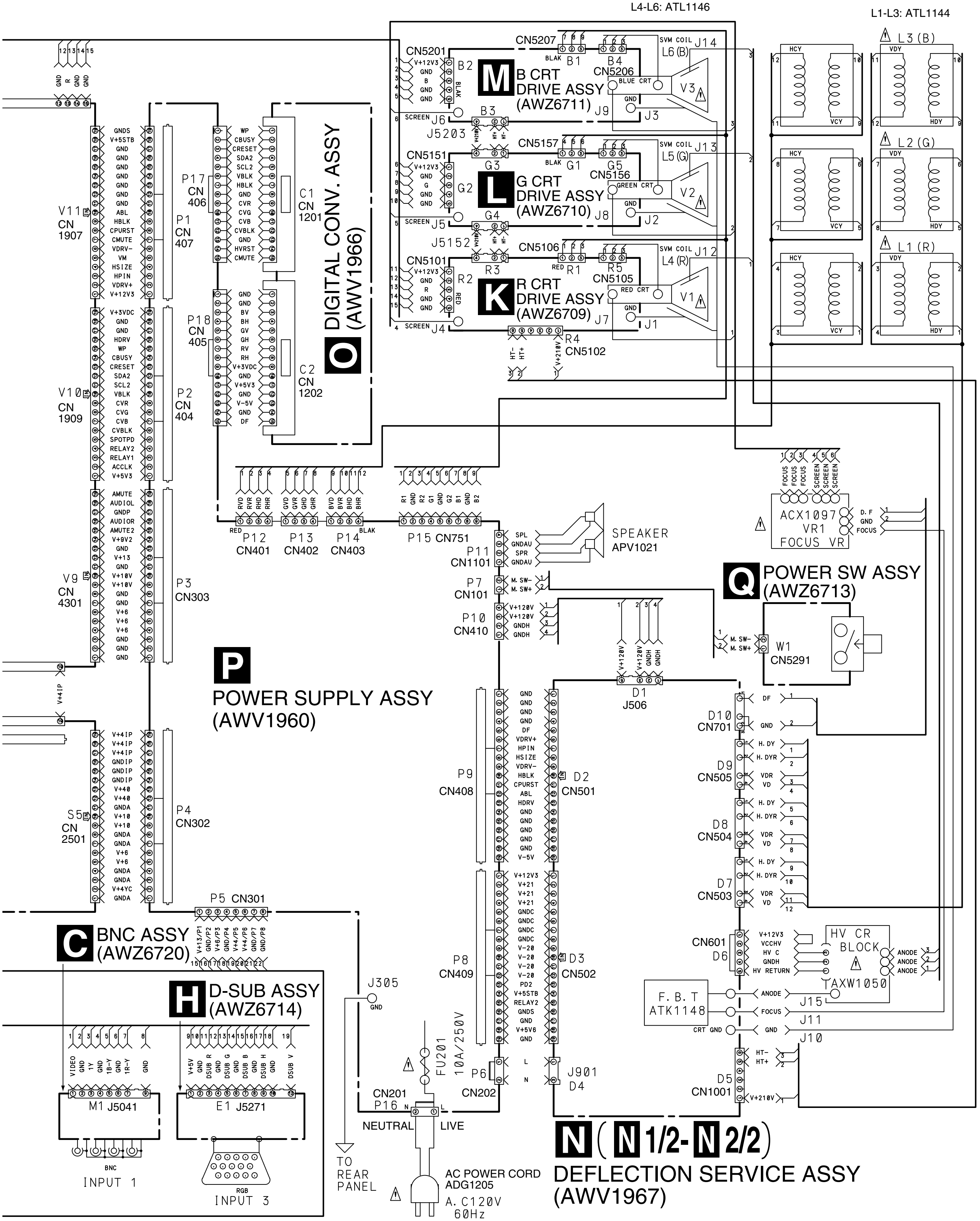
O DIGITAL CONV. ASSY


PRIMARY 1 Block
SECONDARY 1 Block
P POWER SUPPLY ASSY
S5291
POWER
①
②
FU201
RY202
D102
T101
D103
V+5STB
RY201
D201
T201
FU301
D301
V+4V
FU302
D303
V+6V
D305
V+10V
SW REG. CONTROL
IC201
AN8029
FU303
D307
V+13V
FU304
D313
V+30V
VM Block
VM
SVM (VM AMP) Block
VM COIL
CY
CONVERGENCE AMP Block
HBLK
VBLK
DIGITAL CONVERGENCE IC1204 CM0022AF
6 ch DAC
IC205
CD0031AM
IC401, IC402
STK392-180
CONVER AMP
O DIGITAL CONV. ASSY

3.2 OVERALL CONNECTION DIAGRAM


E LED RLS ASSY (AWZ6719)
D FRONT CONTROL ASSY (AWZ6718)
G FRONT INPUT ASSY (AWZ6715)
F REMOTE SENSOR ASSY (AWZ6717)
I DVI SERVICE ASSY (AWV1983)
J (J 1/5- J 5/5) VIDEO UCOM SERVICE ASSY (AWV1992)
PROGRESSIVE UNIT AXY1061
B (B 1/5- B 5/5) SIGNAL ASSY (AWZ6716)
A TUNER ASSY (AWZ6712)
RF SWITCH AXF1109
INPUT 4
INPUT 5
INPUT 6
DIGITAL
CN6002
CN6006
J6001 H5
DET SW
CDET
GND
H1 CN6005
H3 CN6001
H2 CN6004
F1 CN5252
J5002 N1
J5001 K2
CN5001 K1
CN5030 L1
V1 CN1904
V14 CN1905
V15 CN1903
V13 CN1908
V12 CN4601
TO SERIAL WRITER
TO AUTO CONVER
V16 CN2802
V17 CN2804
TO REPLACEBLE BOARD
V2 CN1901
V3 CN1902
V4 CN1906
V5 CN2801
V6 CN2803
V7 CN4602
V8 CN5501
S10 CN2208
S9 CN2601
S8 CN2701
S7 CN3905
S6 CN2206
S3 CN2204
S1 CN1802
T1 CN5302
S13 CN2207
J5301
MODE SELECT
GND
+9V
ANT A
ANT B
CN3901 S11
CN3903 S4
CN2205 S2
CN3904 S12
INPUT 1
INPUT 2
INPUT 3
COMP
SEP
MONITOR OUT
CENTER IN AUDIO OUT
SR IN
SR OUT
RS-232C

Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".


L4-L6: ATL1146
L1-L3: ATL1144
M B CRT DRIVE ASSY (AWZ6711)
L G CRT DRIVE ASSY (AWZ6710)
K R CRT DRIVE ASSY (AWZ6709)
O DIGITAL CONV. ASSY (AWV1966)
P POWER SUPPLY ASSY (AWV1960)
Q POWER SW ASSY (AWZ6713)
C BNC ASSY (AWZ6720)
H D-SUB ASSY (AWZ6714)
N (N 1/2- N 2/2) DEFLECTION SERVICE ASSY (AWV1967)
CN5201 B2 CN5207 B1 B4 CN5206 L6 (B) J14 V3 J9 J3 B3 J6 J5203
CN5151 G2 CN5157 G1 G5 CN5156 L5 (G) J13 V2 J8 J2 G3 G4 J5 J5152
CN5101 R2 CN5106 R1 R5 CN5105 L4 (R) J12 V1 J7 J1 R3 J4 R4 CN5102
L3 (B) L2 (G) L1 (R) HCY VCY VDY HDY
V11 CN 1907 V10 CN 1909 V9 CN 4301 S5 CN 2501
P17 CN 406 P1 CN 407 P18 CN 405 P2 CN 404 P3 CN303 P4 CN302 P5 CN301
C1 CN 1201 C2 CN 1202
P12 CN401 P13 CN402 P14 CN403 P15 CN751
P11 CN1101 P7 CN101 P10 CN410 P9 CN408 P8 CN409 P6 CN202
SPEAKER APV1021
ACX1097 VR1 FOCUS VR
W1 CN5291
D1 J506 D10 CN701 D9 CN505 D8 CN504 D7 CN503 CN601 D6 D2 CN501 D3 CN502 D4 J901 D5 CN1001
HV CR BLOCK AXW1050
F.B.T ATK1148
J15 J11 J10
J305 GND
FU201 10A/250V
CN201 P16 NEUTRAL LIVE
TO REAR PANEL
AC POWER CORD ADG1205
A.C120V 60Hz
M1 J5041 E1 J5271
BNC INPUT 1
RGB INPUT 3

3.3 CONNECTOR PIN NAMES AND VOLTAGES

Condition: INPUT 1, Composite signal (color-bar)
Digital multi-meter, AC120V

N DEFLECTION SERVICE ASSY — **P** POWER SUPPLY ASSY

D1 (J506)		DC Voltage (V)	P10 (CN410)	
Pin	Name		Pin	Name
1	GND H	0	1	GND H
2	GND H	0	2	GND H
3	V+120V	120.4	3	V+120V
4	V+120V	120.4	4	V+120V
5	DF	1.99	5	DF

N DEFLECTION SERVICE ASSY — **P** POWER SUPPLY ASSY

D2 (CN501)		DC Voltage (V)	P9 (CN408)	
Pin	Name		Pin	Name
1	GND	0	1	GND
2	GND	0	2	GND
3	GND	0	3	GND
4	GND	0	4	GND
5	DF	1.99	5	DF
6	VDRV+	3.5	6	VDRV+
7	HPIN	2.3	7	HPIN
8	HSIZE	5.1	8	HSIZE
9	VDRV-	3.4	9	VDRV-
10	HBLK	0.85	10	HBLK
11	CPURST	12.0	11	CPURST
12	ABL	6.2	12	ABL
13	HDRV	1.9	13	HDRV
14	GND	0	14	GND
15	GND	0	15	GND
16	GND	0	16	GND
17	GND	0	17	GND
18	GND	0	18	GND
19	V-5V	-4.89	19	V-5V

N DEFLECTION SERVICE ASSY — **K** R CRT DRIVE ASSY

D5 (CN1001)		DC Voltage (V)	R4 (CN5102)	
Pin	Name		Pin	Name
1	V+210V	208	1	V+210V
2	NC	0	2	NC
3	NC	0	3	NC
4	GNDH	0	4	GNDH
5	HT+	6.4	5	HT+
6	HT-	0	6	HT-

P POWER SUPPLY ASSY — **J** VIDEO UCOM SERVICE ASSY

P1 (CN407)		DC Voltage (V)	V11 (CN1907)	
Pin	Name		Pin	Name
1	V+12V3	11.9	1	V+12V3
2	VDRV+	3.5	2	VDRV+
3	HPIN	2.4	3	HPIN
4	HSIZE	5.1	4	HSIZE
5	VM	0.7	5	VM
6	VDRV-	3.4	6	VDRV-
7	CMUTE	0.05	7	CMUTE
8	CPURST	12.0	8	CPURST
9	HBLK	0.8	9	HBLK
10	ABL	6.2	10	ABL
11	GND	0	11	GND
12	GND	0	12	GND
13	GND	0	13	GND
14	GND	0	14	GND
15	GND	0	15	GND
16	GND	0	16	GND
17	GND	0	17	GND
18	V+5STB	5.1	18	V+5STB
19	GNDS	0	19	GNDS

N DEFLECTION SERVICE ASSY — **P** POWER SUPPLY ASSY

D3 (CN502)		DC Voltage (V)	P8 (CN409)	
Pin	Name		Pin	Name
1	V+12V3	11.9	1	V+12V3
2	V+21	23.3	2	V+21
3	V+21	23.3	3	V+21
4	V+21	23.3	4	V+21
5	GNDC	0	5	GNDC
6	GNDC	0	6	GNDC
7	GNDC	0	7	GNDC
8	GNDC	0	8	GNDC
9	V-20	-23.3	9	V-20
10	V-20	-23.3	10	V-20
11	V-20	-23.3	11	V-20
12	V-20	-23.3	12	V-20
13	PD2	0.07	13	PD2
14	V+5STB	5.1	14	V+5STB
15	RELAY2	2.5	15	RELAY2
16	GNDS	0	16	GNDS
17	GND	0	17	GND
18	V+5V6	5.1	18	V+5V6
19	GND	0	19	GND

P POWER SUPPLY ASSY — **J** VIDEO UCOM SERVICE ASSY

P2 (CN404)		DC Voltage (V)	V10 (CN1909)	
Pin	Name		Pin	Name
1	V+5V3	5.0	1	V+5V
2	ACCLK	5.0	2	ACCLK
3	RELAY1	2.1	3	RELAY1
4	RELAY2	2.5	4	RELAY2
5	SPOTPD	3.2	5	SPOTPD
6	CVBLK	0.014	6	CVBLK
7	CVB	0.7	7	CVB
8	CVG	0.7	8	CVG
9	CVR	0.7	9	CVR
10	VBLK	0.018	10	VBLK
11	SCL2	2.5	11	SCL2
12	SDA2	1.8	12	SDA2
13	CRESET	4.9	13	CRESET
14	CBUSY	4.9	14	CBUSY
15	WP	4.9	15	WP
16	HDRV	1.9	16	HDRV
17	GND	0	17	GND
18	GND	0	18	GND
19	V+3VDC	3.3	19	V+3VDC

P POWER SUPPLY ASSY — **J** VIDEO UCOM SERVICE ASSY

P3 (CN303)		DC Voltage (V)	V9 (CN4301)	
Pin	Name		Pin	Name
1	GND	0	1	GND
2	GND	0	2	GND
3	GND	0	3	GND
4	V+6	6.5	4	V+6
5	V+6	6.5	5	V+6
6	V+6	6.5	6	V+6
7	GND	0	7	GND
8	GND	0.0	8	GND
9	V+10V	10.0	9	V+10V
10	V+10V	10.0	10	V+10V
11	GND	0	11	GND
12	V+13	14.5	12	V+13
13	GND	0	13	GND
14	V+9V2	9.0	14	V+9V2
15	AMUTE2	0.04	15	AMUTE2
16	AUDIOR	2.6	16	AUDIOR
17	GNDP	0	17	GNDP
18	AUDIOL	2.6	18	AUDIOL
19	AMUTE	0.2	19	AMUTE

J VIDEO UCOM SERVICE ASSY — **B** SIGNAL ASSY

V8 (CN5501)		DC Voltage (V)	S6 (CN2206)	
Pin	Name		Pin	Name
1	LIN	5.1	1	LIN
2	GNDA	0	2	GNDA
3	RIN	5.1	3	RIN
4	GNDA	0	4	GNDA
5	VARL	4.8	5	VARL
6	GNDPRE	0	6	GNDPRE
7	VARR	4.8	7	VARR
8	GNDA	0	8	GNDA
9	V/FSW	0.04	9	V/FSW
10	V/MUTE	0.04	10	V/MUTE
11	CENTSW	0.04	11	CENTSW
12	GNDA	0	12	GNDA
13	MON/TVMUTE	0.04	13	MON/TVMUTE
14	GNDIP	0	14	GNDIP
15	GNDIP	0	15	GNDIP
16	GNDIP	0	16	GNDIP
17	V+4IP	4.8	17	V+4IP
18	V+4IP	4.8	18	V+4IP
19	V+4IP	4.8	19	V+4IP

J VIDEO UCOM SERVICE ASSY — **B** SIGNAL ASSY

V7 (CN4602)		DC Voltage (V)	S7 (CN3905)	
Pin	Name		Pin	Name
1	B	3.1	1	B
2	GND	0	2	GNDA
3	G	3.1	3	G
4	GND	0	4	GNDA
5	R	3.1	5	R
6	GND	0	6	GNDA
7	DSUB/DVISW	4.9	7	DSUB/DVISW
8	GND	0	8	GNDA
9	GND	0	9	GNDA
10	GND	0	10	GNDA
11	MCOMPSW	4.9	11	MCOMPSW
12	SCOMPSW	4.9	12	SCOMPSW
13	GND	0	13	GNDA
14	GND	0	14	GNDA
15	GND	0	15	GNDA
16	MH	0.9	16	MH
17	MV	0.02	17	MV
18	GND	0	18	GNDA
19	V+12V2	12.0	19	V+12V2

J VIDEO UCOM SERVICE ASSY — **B** SIGNAL ASSY

V4 (CN1906)		DC Voltage (V)	S10 (CN2208)	
Pin	Name		Pin	Name
1	RXD0	3.3	1	RXD0
2	TXD0	3.3	2	TXD0
3	ANTSW	3.3	3	ANTSW
4	FMONO	0	4	FMONO
5	SAP1	3.3	5	SAP1
6	MPX	0.02	6	MPX
7	ST1	3.3	7	ST1
8	HS1	1.6	8	HS1
9	AFT1	1.7	9	AFT1
10	AFT2	2.5	10	AFT2
11	HS2	2	11	HS2
12	REMOUT	3.1	12	REMOUT
13	V+5STB	5.1	13	V+5STB
14	GNDS	0	14	GNDS
15	V+3STB	3.3	15	V+3STB
16	SCL1	2.5	16	SCL1
17	SDA1	1.7	17	SDA1
18	TVSW	0.04	18	TVSW
19	3DRST	5.0	19	3DRST

P POWER SUPPLY ASSY — **B** SIGNAL ASSY

P4 (CN302)		DC Voltage (V)	S5 (CN2501)	
Pin	Name		Pin	Name
1	GND	0	1	GNDA
2	V+4	4.8	2	V+4YC
3	GND	0	3	GNDA
4	GND	0	4	GNDA
5	V+6	6.5	5	V+6
6	V+6	6.5	6	V+6
7	GND	0	7	GNDA
8	GND	0	8	GNDA
9	V+10V	10	9	V+10
10	V+10V	10	10	V+10
11	GND	0	11	GND
12	V+40	40	12	V+40
13	V+40	40	13	V+40
14	GND	0	14	GNDIP
15	GND	0	15	GNDIP
16	GND	0	16	GNDIP
17	V+4	4.9	17	V+4IP
18	V+4	4.9	18	V+4IP
19	V+4	4.9	19	V+4IP

J VIDEO UCOM SERVICE ASSY — **B** SIGNAL ASSY

V6 (CN2803)		DC Voltage (V)	S8 (CN2701)	
Pin	Name		Pin	Name
1	KIL	0.08	1	KIL
2	FSC	3.0	2	FSC
3	GNDA	0	3	GNDA
4	GNDA	0	4	GNDA
5	GNDA	0	5	GNDA
6	GNDA	0	6	GNDA
7	GNDA	0	7	GNDA
8	2LY	2.4	8	2LY
9	GNDA	0	9	GNDA
10	2LC	2.5	10	2LC
11	GNDA	0	11	GNDA
12	SY	2.2	12	SY
13	GNDA	0	13	GNDA
14	SCB	2.7	14	SCB
15	GNDA	0	15	GNDA
16	SCR	2.7	16	SCR
17	GNDA	0	17	GNDA
18	SH	0.02	18	SH
19	SV	0.02	19	SV

I DVI SERVICE ASSY — **B** SIGNAL ASSY

H2 (CN6004)		DC Voltage (V)	S2 (CN2205) S12 (CN3904)	
Pin	Name		Pin	Name
1	DVIR	0.03	S2-1	DVIR
2	GND	0	S2-2	GND
3	DVIG	0.01	S2-3	DVIG
4	GND	0	S2-4	GND
5	DVIB	0.01	S2-5	DVIB
6	GND	0	S2-6	GND
7	DVIH	0.009	S2-7	DVIH
8	GND	0	S2-8	GND
9	DVIV	0.009	S2-9	DVIV
10	PDET1	5.0	S2-10	PDET1
11	DAL	6.1	S12-1	DVIL
12	GND	0	S12-2	GND
13	DAR	6.1	S12-3	DVIR
14	GND	0	S12-4	GND

J VIDEO UCOM SERVICE ASSY

B SIGNALASSY

V5 (CN2801)		DC Voltage (V)	S9 (CN2601)	
Pin	Name		Pin	Name
1	MY	2.2	1	MY
2	GNDA	0	2	GNDA
3	MCB	2.7	3	MCB
4	GNDA	0	4	GNDA
5	MCR	2.7	5	MCR
6	GNDA	0	6	GNDA
7	3DY	4.0	7	3DY
8	GNDA	0	8	GNDA
9	3DC	4.4	9	3DC
10	GNDA	0	10	GNDA
11	GNDA	0	11	GNDA
12	GNDA	0	12	GNDA
13	GNDA	0	13	GNDA
14	GNDA	0	14	GNDA
15	GNDA	0	15	GNDA
16	GNDA	0	16	GNDA
17	GNDA	0	17	GNDA
18	GNDA	0	18	GNDA
19	GNDA	0	19	GNDA

J VIDEO UCOM SERVICE ASSY

D FRONT CONTROL ASSY

V1 (CN1904)		DC Voltage (V)	K1 (CN5001)	
Pin	Name		Pin	Name
1	V+9V	9.0	1	V+9V
2	V+5STB	5.1	2	V+5STB
3	KEY	3.3	3	KEY
4	RLS	3.5	4	RLS
5	GNDS	0	5	GNDS
6	FLASH	3.3	6	FLASH

P POWER SUPPLY ASSY

I DVI SERVICE ASSY

P5 (CN301)		DC Voltage (V)	H3 (CN6001)	
Pin	Name		Pin	Name
1	V+13	14.5	1	V+13
2	GND	0	2	GND
3	V+6	6.5	3	V+6
4	GND	0	4	GND
5	V+4	4.9	5	V+4
6	V+4	4.9	6	V+4
7	GND	0	7	GND
8	GND	0	8	GND

J VIDEO UCOM SERVICE ASSY

I DVI SERVICE ASSY

V2 (CN1901)		DC Voltage (V)	H1 (CN6005)	
Pin	Name		Pin	Name
1	SDA3	4.8	1	SDA3
2	SCL3	4.9	2	SCL3
3	PTT	4.0	3	PTT
4	MOFF/ML	5.0	4	MOFF/ML
5	DVIRST	5.0	5	DVIRST
6	MC	0.4	6	MC
7	MD	0.4	7	MD
8	MDET	5.0	8	MDET
9	V+5STB	5.1	9	V+5STB
10	GND	0	10	GND

B SIGNAL ASSY

F REMOTE SENSOR ASSY

S1 (CN1802)		DC Voltage (V)	L1 (CN5030)	
Pin	Name		Pin	Name
1	V+5STB	5.1	1	V+5STB
2	GNDS	0	2	GNDS
3	REMIN	3.0	3	REMIN

B SIGNAL ASSY

C BNC ASSY

S11 (CN3901)		DC Voltage (V)	M1 (J5041)	
Pin	Name		Pin	Name
1	VIDEO	0.01	1	VIDEO
2	GND	0	2	GND
3	1Y	0.01	3	1Y
4	GND	0	4	GND
5	1B-Y	0.01	5	1B-Y
6	GND	0	6	GND
7	1R-Y	0.01	7	1R-Y
			8	NC
8	GND	0	9	GND

B SIGNAL ASSY

G FRONT INPUT ASSY

S3 (CN2204)		DC Voltage (V)	F1 (CN5252)	
Pin	Name		Pin	Name
1	V+12VA	12.0	1	V+12VA
2	GND	0	2	GND
3	FR	5.1	3	R
4	GND	0	4	GND
5	FL	5.1	5	L
6	GND	0	6	GND
7	FV	0.01	7	VIDEO
8	GND	0.0	8	GND
9	FC	2.8	9	C
10	GND	0	10	GND
11	FY	0.01	11	Y
12	S2	2.8	12	S2

J VIDEO UCOM SERVICE ASSY

K R CRT DRIVE ASSY
L G CRT DRIVE ASSY
M B CRT DRIVE ASSY

V12 (CN4601)		DC Voltage (V)	R2 (CN5101) G2 (CN5151) B2 (CN5201)	
Pin	Name		Pin	Name
1	V+12V3	11.9	B2-1	12V
2	GND	0	B2-2	GND
3	B	3.5	B2-3	B OUT
4	GND	0	B2-4	GND
5	GND	0	B2-5	GND
6	V+12V3	11.9	G2-1	12V
7	GND	0	G2-2	GND
8	G	3.5	G2-3	G OUT
9	GND	0	G2-4	GND
10	GND	0	G2-5	GND
11	V+12V3	11.9	R2-1	12V
12	GND	0	R2-2	GND
13	R	3.5	R2-3	R OUT
14	GND	0	R2-4	GND
15	GND	0	R2-5	GND

K R CRT DRIVE ASSY
L G CRT DRIVE ASSY
M B CRT DRIVE ASSY

R3 (J5152) G3 (J5203) B3 (J5203)		DC Voltage (V)
Pin	Name	
1	HT-	0
2	HT+	6.5
3	NC	-
4	210V	207.0

B SIGNAL ASSY

H D-SUB ASSY

S4 (CN3903)		DC Voltage (V)	E1 (J5271)	
Pin	Name		Pin	Name
1	V+5V	4.9	1	V+5V
2	GND	0	2	GND
3	RGB R	0.01	3	DSUB R
4	GND	0	4	GND
5	RGB G	0.01	5	DSUB G
6	GND	0	6	GND
7	RGB B	0.01	7	DSUB B
8	GND	0	8	GND
9	RGB H	0.01	9	DSUB H
10	GND	0	10	GND
			11	NC
11	RGB V	0.01	12	DSUB V

P

POWER SUPPLY ASSY

K **R CRT DRIVE ASSY**

L **G CRT DRIVE ASSY**

M **B CRT DRIVE ASSY**

P15 (CN751)		DC Voltage (V)	R1 (CN5106) G1 (CN5157) B1 (CN5207)	
Pin	Name		Pin	Name
1	R1	58.6	R1-1	R1
2	GND	0	R1-2	GND
3	R2	59.3	R1-3	R2
4	G1	59.3	G1-1	G1
5	GND	0	G1-2	GND
6	G2	59.3	G1-3	G2
7	B1	59.3	B1-1	B1
8	GND	0	B1-2	GND
9	B2	59.3	B1-3	B2

N

DEFLECTION SERVICE ASSY

D6 (CN601)		DC Voltage (V)
Pin	Name	
1	V+12V3	11.9
2	VCCHV	11.9
3	HV C	5.1
4	GNDH	0
5	HV RETURN	-

P

POWER SUPPLY ASSY

O

DIGITAL CONV. ASSY

P17 (CN406)		DC Voltage (V)	C1 (CN1201)	
Pin	Name		Pin	Name
1	WP	5.0	1	WP
2	CBUSY	4.9	2	CBUSY
3	CRESET	4.8	3	CRESET
4	SDA2	1.8	4	CSDA
5	SCL2	2.5	5	CSCL
6	VBLK	0.7	6	VBLK2
7	HBLK	0.8	7	DHBLK
8	GND	0	8	GND
9	CVR	0.7	9	CVR
10	CVG	0.7	10	CVG
11	CVB	0.7	11	CVB
12	CVBLK	0.02	12	CVBLK
13	GND	0	13	GND
14	HVRST	3.4	14	HVRST
15	CMUTE	0.05	15	CMUTE

P

POWER SUPPLY ASSY

P11 (CN1101)		DC Voltage (V)
Pin	Name	
1	GNDAU	0
2	SPR	0.12
3	GNDAU	0
4	SPL	0.12

P

POWER SUPPLY ASSY

O

DIGITAL CONV. ASSY

P18 (CN405)		DC Voltage (V)	C2 (CN1202)	
Pin	Name		Pin	Name
1	GND	0	1	GND
2	GND	0	2	GND
3	BV	-130mV	3	BV
4	BH	-48mV	4	BH
5	GV	-130mV	5	GV
6	GH	-150mV	6	GH
7	RV	-160mV	7	RV
8	RH	-170mV	8	RH
9	V+3VDC	3.3	9	V+3V
10	GND	0	10	GND
11	V+5V3	5.0	11	V+5V
12	GND	0	12	GND
13	V-5V	-4.8	13	V-5V
14	GND	0	14	GND
15	DF	2.0	15	HVPARA

A

TUNER ASSY

RF SWITCH		DC Voltage (V)	J5301	
Pin	Name		Pin	Name
1	MODE SELECT	0.06	4	MODE SELECT
			3	NC
2	GND	0	2	GND
3	V+9V	9.0	1	V+9V

B

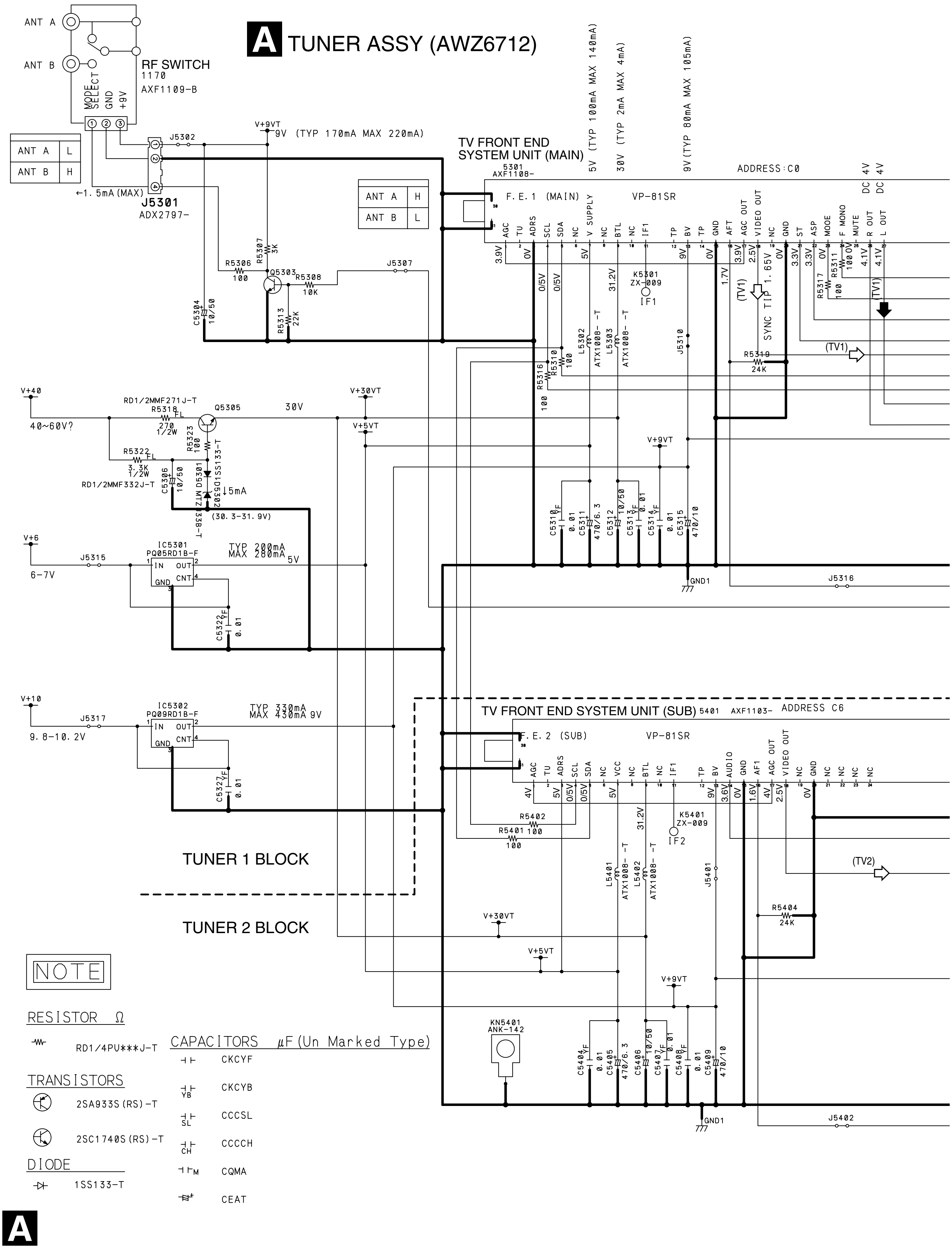
SIGNAL ASSY

A

TUNER ASSY

S13 (CN2207)		DC Voltage (V)	T1 (CN5302)	
Pin	Name		Pin	Name
1	GND	0	1	GND
2	GND	0	2	GND
3	L1	4.1	3	L1
4	GND	0	4	GND
5	R1	4.1	5	R1
6	GND	0	6	GND
7	AU	3.6	7	AU
8	GND	0	8	GND
9	AFT2	2.2	9	AFT2
10	HS2	1.5	10	HS2
11	V1	4	11	V1
12	GND	0	12	GND
13	V+10	10.0	13	V+10
14	GND	0	14	GND
15	V+6	6.5	15	V+6
16	V+40	39.0	16	V+40
17	V2	2.5	17	V2
18	GND	0	18	GND
19	DATA	1.8	19	DATA
20	CLK	2.5	20	CLK
21	GND	0	21	GND
22	GND	0	22	GND
23	GND	0	23	GND
24	GND	0	24	GND
25	L1	4.1	25	L1
26	GND	0	26	GND
27	R1	4.1	27	R1
28	GND	0	28	GND
29	FMONO	0.02	29	FMONO
30	MPX1	0.8	30	MPX1
31	SAP	3.3	31	SAP
32	ST1	3.3	32	ST1
33	V1	3.7	33	V1
34	GND	0	34	GND
35	V+10	10.0	35	V+10
36	GND	0	36	GND
37	V+6	6.5	37	V+6
38	V+40	39.0	38	V+40
39	V2	2.5	39	V2
40	HS1	1.5	40	HS1
41	AFT1	3.0	41	AFT1
42	ANTSW	3.3	42	ANTSW
43	GND	0	43	GND
44	GND	0	44	GND

3.4 TUNER ASSY

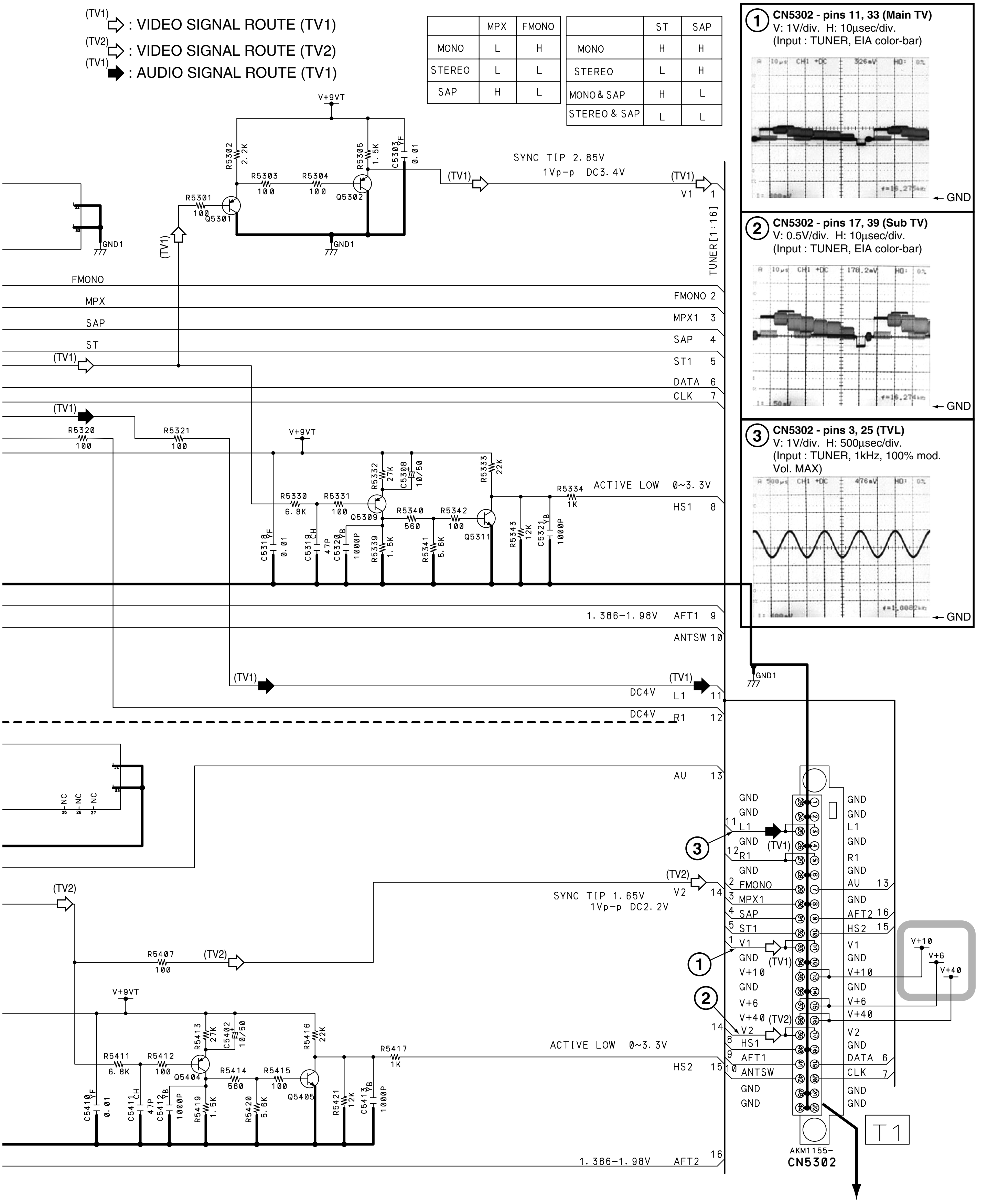

A TUNER ASSY (AWZ6712)
ANT A
ANT B
RF SWITCH
1170
AXF1109-B
MODE SELECT
GND
+9V
ANT A L
ANT B H
J5302
J5301
ADX2797-
←1.5mA(MAX)
V+9VT
9V (TYP 170mA MAX 220mA)
TV FRONT END SYSTEM UNIT (MAIN)
5301
AXF1108-
F.E.1 (MAIN)
VP-81SR
ANT A H
ANT B L
5V (TYP 100mA MAX 140mA)
30V (TYP 2mA MAX 4mA)
9V(TYP 80mA MAX 105mA)
ADDRESS:C0
DC 4V
DC 4V
AGC
TU
ADRS
SCL
SDA
NC
V SUPPLY
NC
BTL
NC
IF1
TP
BV
TP
GND
AFT
AGC OUT
VIDEO OUT
NC
GND
ST
ASP
MODE
F MONO
MUTE
R OUT
L OUT
3.9V
0V
5V
9V
0V
3.9V
2.5V
0V
3.3V
0V
0V
4.1V
4.1V
0/5V
0/5V
31.2V
1.7V
K5301
ZX-009
IF1
(TV1)
SYNC TIP 1.65V
R5317
100
R5311
100
(TV1)
(TV1)
R5319
24K
R5306
100
R5307
3K
Q5303
R5308
10K
J5307
R5313
22K
C5304
10/50
L5302
ATX1008- -T
L5303
ATX1008- -T
J5310
R5316
100
R5310
100
V+40
40~60V?
RD1/2MMF271J-T
R5318
270
1/2W
FL
Q5305
30V
V+30VT
V+5VT
R5323
100
R5322
3.3K
1/2W
FL
RD1/2MMF332J-T
C5306
10/50
D5301
1SS133-T
D5302
MTZJ33B-T
↓5mA
(30.3-31.9V)
V+9VT
C5310
0.01
C5311
470/6.3
C5312
10/50
C5313
0.01
C5314
0.01
C5315
470/10
GND1
J5316
V+6
6-7V
J5315
IC5301
PQ05RD1B-F
IN
OUT
GND
CNT
TYP 200mA
MAX 280mA
5V
C5322
0.01
V+10
9.8-10.2V
J5317
IC5302
PQ09RD1B-F
IN
OUT
GND
CNT
TYP 330mA
MAX 430mA
9V
C5327
0.01
TV FRONT END SYSTEM UNIT (SUB)
5401
AXF1103-
ADDRESS C6
F.E.2 (SUB)
VP-81SR
AGC
TU
ADRS
SCL
SDA
NC
VCC
NC
BTL
NC
IF1
TP
BV
AUDIO
GND
AF1
AGC OUT
VIDEO OUT
NC
GND
NC
NC
NC
NC
4V
5V
0/5V
0/5V
5V
9V
3.6V
0V
1.6V
4V
2.5V
0V
R5402
100
R5401
100
31.2V
K5401
ZX-009
IF2
L5401
ATX1008- -T
L5402
ATX1008- -T
J5401
(TV2)
R5404
24K
TUNER 1 BLOCK
TUNER 2 BLOCK
V+30VT
V+5VT
V+9VT
KN5401
ANK-142
C5404
0.01
C5405
470/6.3
C5406
10/50
C5407
0.01
C5408
0.01
C5409
470/10
GND1
J5402
NOTE
RESISTOR Ω
RD1/4PU***J-T
CAPACITORS μF(Un Marked Type)
CKCYF
YB
CKCYB
SL
CCCSL
CH
CCCCH
M
CQMA
CEAT
TRANSISTORS
2SA933S(RS)-T
2SC1740S(RS)-T
DIODE
1SS133-T

A

(TV1) ⇨ : VIDEO SIGNAL ROUTE (TV1)
(TV2) ⇨ : VIDEO SIGNAL ROUTE (TV2)
(TV1) ➡ : AUDIO SIGNAL ROUTE (TV1)

	MPX	FMONO
MONO	L	H
STEREO	L	L
SAP	H	L

	ST	SAP
MONO	H	H
STEREO	L	H
MONO & SAP	H	L
STEREO & SAP	L	L


V+9VT
R5302 2.2K
R5305 1.5K
C5303 YF 0.01
R5303 100
R5304 100
Q5302
R5301 100
Q5301
GND1
(TV1)
SYNC TIP 2.85V
1Vp-p DC3.4V
V1 1
TUNER[1:16]
FMONO
MPX
SAP
ST
FMONO 2
MPX1 3
SAP 4
ST1 5
DATA 6
CLK 7
R5320 100
R5321 100
R5332 27K
C5308 10/50
R5333 22K
R5330 6.8K
R5331 100
Q5309
R5340 560
R5342 100
Q5311
R5334 1K
ACTIVE LOW 0~3.3V
HS1 8
C5318 YF 0.01
C5319 CH 47P
C5320 B 1000P
R5339 1.5K
R5341 5.6K
R5343 12K
C5321 B 1000P
1.386-1.98V AFT1 9
ANTSW 10
DC4V L1 11
DC4V R1 12
AU 13
NC NC NC
SYNC TIP 1.65V
1Vp-p DC2.2V
V2 14
(TV2)
R5407 100
R5413 27K
C5402 10/50
R5416 22K
R5417 1K
ACTIVE LOW 0~3.3V
HS2 15
R5411 6.8K
R5412 100
Q5404
R5414 560
R5415 100
Q5405
C5410 YF 0.01
C5411 CH 47P
C5412 B 1000P
R5419 1.5K
R5420 5.6K
R5421 12K
C5413 B 1000P
1.386-1.98V AFT2 16
GND
GND
L1
GND
R1
GND
FMONO
MPX1
SAP
ST1
V1
GND
V+10
GND
V+6
V+40
V2
HS1
AFT1
ANTSW
GND
GND
GND
GND
L1
GND
R1
GND
AU 13
GND
AFT2 16
HS2 15
V1
GND
V+10
GND
V+6
V+40
V2
GND
DATA 6
CLK 7
GND
GND
V+10
V+6
V+40
①
②
③
AKM1155-
CN5302
T1
B 1/5 CN2207
S13
GND
GND
GND

① **CN5302 - pins 11, 33 (Main TV)**
V: 1V/div. H: 10µsec/div.
(Input : TUNER, EIA color-bar)

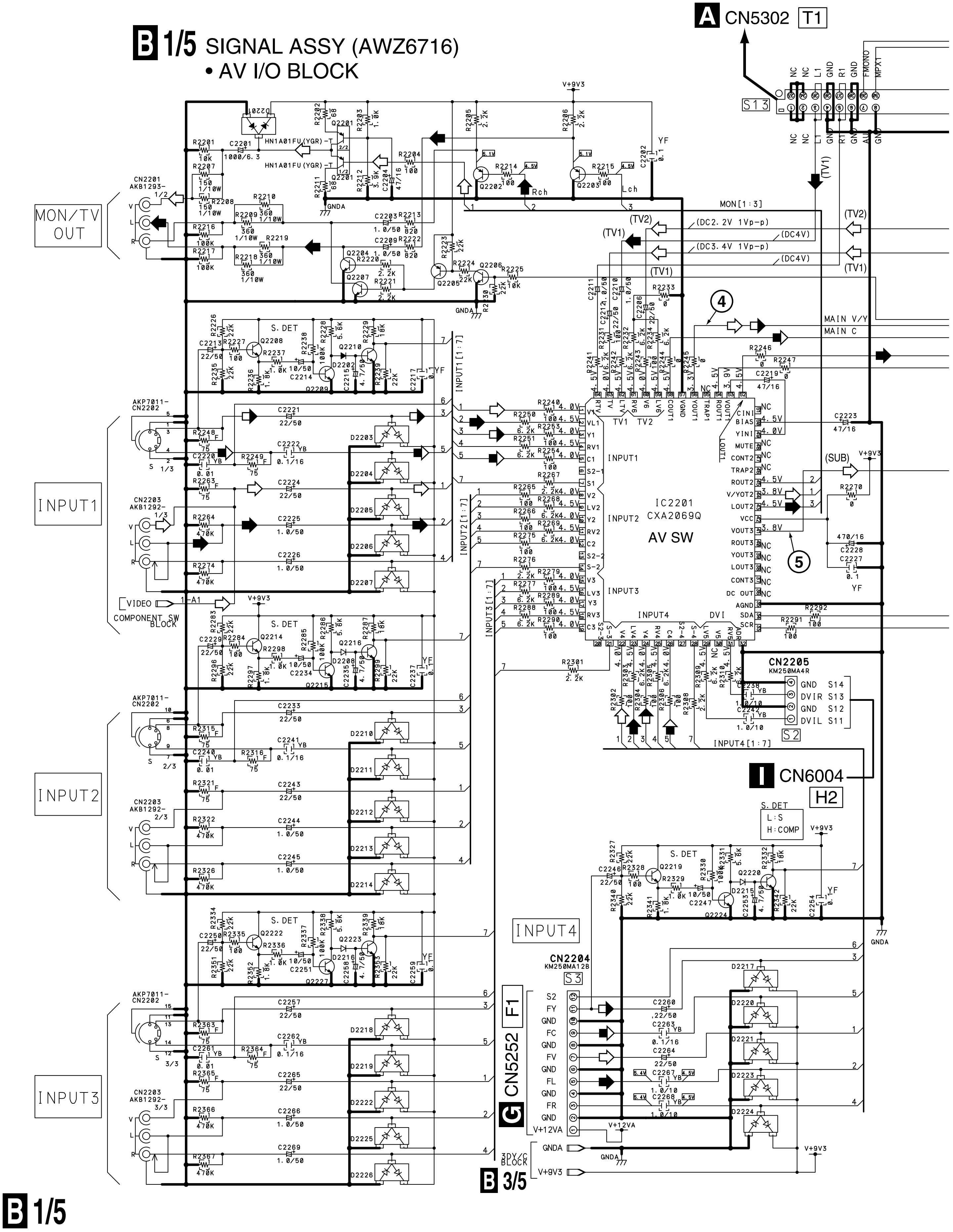
② **CN5302 - pins 17, 39 (Sub TV)**
V: 0.5V/div. H: 10µsec/div.
(Input : TUNER, EIA color-bar)

③ **CN5302 - pins 3, 25 (TVL)**
V: 1V/div. H: 500µsec/div.
(Input : TUNER, 1kHz, 100% mod.
Vol. MAX)

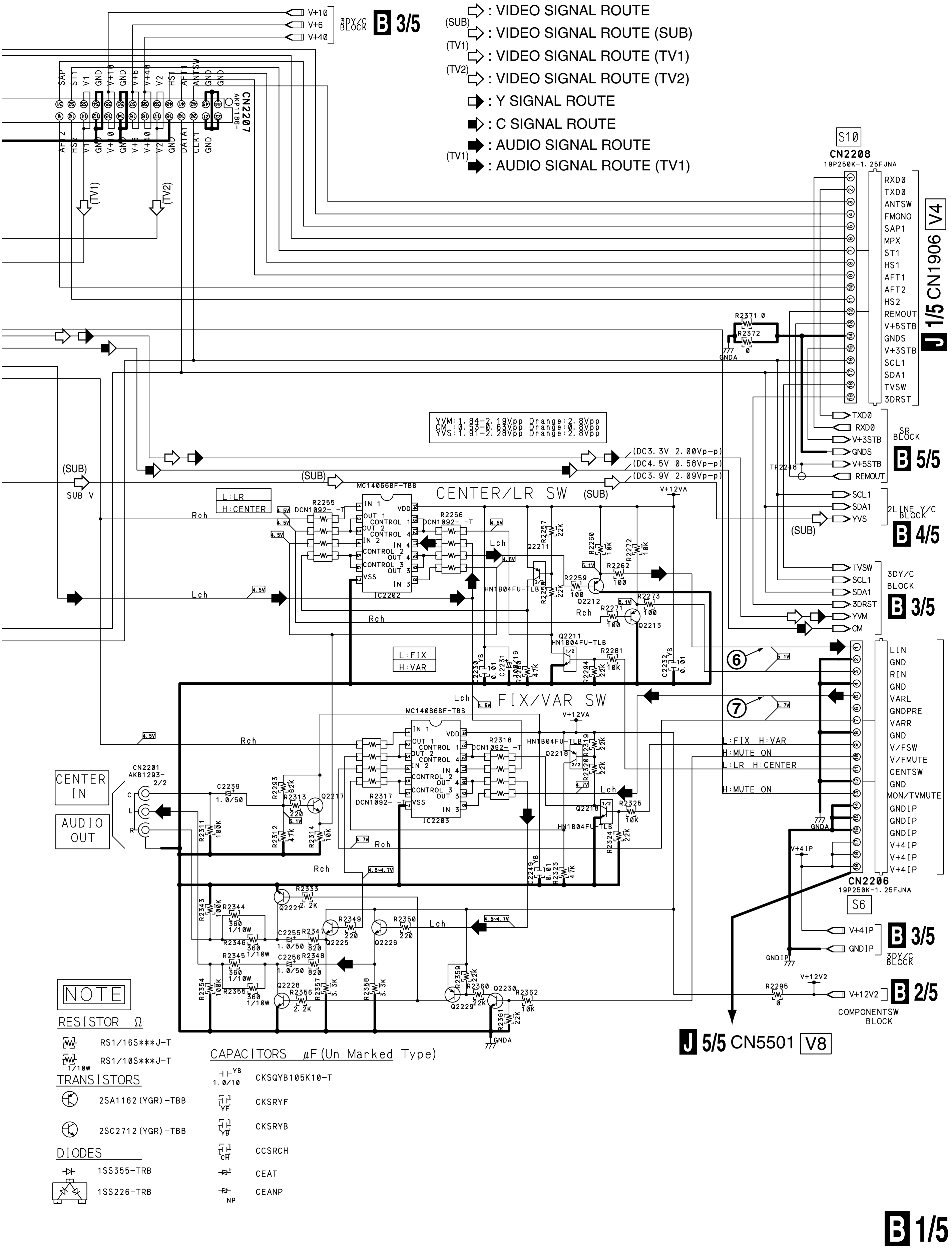
▭ : The power supply is shown with the marked box.

A

3.5 SIGNAL ASSY (1/5)



B 1/5 SIGNAL ASSY (AWZ6716)
• AV I/O BLOCK
A CN5302 T1
S13
NC
NC
L1
GND
R1
GND
FMONO
MPX1
AV
V+9V3
MON/TV OUT
CN2201 AKB1293- 1/2
INPUT1
INPUT2
INPUT3
INPUT4
AKP7011-CN2202
CN2203 AKB1292- 1/3
CN2203 AKB1292- 2/3
CN2203 AKB1292- 3/3
VIDEO COMPONENT SW BLOCK
S. DET
D2201
Q2201
HN1A01FU(YGR)-T
Rch
Lch
GNDA
MON[1:3]
(TV1)
(TV2)
(DC2.2V 1Vp-p)
(DC4V)
(DC3.4V 1Vp-p)
④
⑤
MAIN V/Y
MAIN C
(SUB)
IC2201
CXA2069Q
AV SW
INPUT1[1:7]
INPUT2[1:7]
INPUT3[1:7]
INPUT4[1:7]
CN2205 KM250MA4R
GND S14
DVIR S13
GND S12
DVIL S11
S2
I CN6004
H2
S. DET
L:S
H:COMP
CN2204 KM250MA12B
S3
F1
G CN5252
S2
FY
GND
FC
GND
FV
GND
FL
GND
FR
GND
V+12VA
GNDA
V+9V3
3DY/C BLOCK
B 3/5
B 1/5


: VIDEO SIGNAL ROUTE
(SUB) : VIDEO SIGNAL ROUTE (SUB)
(TV1) : VIDEO SIGNAL ROUTE (TV1)
(TV2) : VIDEO SIGNAL ROUTE (TV2)
: Y SIGNAL ROUTE
: C SIGNAL ROUTE
: AUDIO SIGNAL ROUTE
(TV1) : AUDIO SIGNAL ROUTE (TV1)
V+10
V+6
V+40
3DY/C BLOCK
B 3/5
CN2207
AKP1186-
SAP
ST1
V1
GND
V+10
V+6
V+40
V2
HS1
AFT1
ANTSW
AFT2
HS2
DATA1
CLK1
(TV1)
(TV2)
S10
CN2208
19P250K-1.25FJNA
RXD0
TXD0
ANTSW
FMONO
SAP1
MPX
ST1
HS1
AFT1
AFT2
HS2
REMOUT
V+5STB
GNDS
V+3STB
SCL1
SDA1
TVSW
3DRST
J 1/5 CN1906 V4
R2371 0
R2372 0
GNDA
YVM:1.84-2.19Vpp Drange:2.8Vpp
CM :0.55-0.65Vpp Drange:0.8Vpp
YVS:1.81-2.28Vpp Drange:2.8Vpp
TXD0
RXD0
V+3STB
GNDS
V+5STB
REMOUT
SR BLOCK
B 5/5
TP2248
(DC3.3V 2.00Vp-p)
(DC4.5V 0.58Vp-p)
(DC3.9V 2.09Vp-p)
(SUB)
SUB V
CENTER/LR SW
L:LR
H:CENTER
MC14066BF-TBB
R2255
DCN1092-
R2256
DCN1092- -T
IN 1
OUT 1
CONTROL 1
OUT 2
CONTROL 4
IN 2
IN 4
CONTROL 2
OUT 4
CONTROL 3
OUT 3
VSS
IN 3
VDD
IC2202
Rch
Lch
4.5V
+12VA
R2257 22k
Q2211
R2260 10k
R2272 10k
R2262 100
R2259 100
Q2212
R2258 22k
HN1B04FU-TLB
R2271 100
R2273 100
Q2213
5.1V
SCL1
SDA1
YVS
2LINE Y/C BLOCK
B 4/5
TVSW
SCL1
SDA1
3DRST
YVM
CM
3DY/C BLOCK
B 3/5
L:FIX
H:VAR
C2230 0.01
C2231 YB
R2290
R2216 47k
R2294 22k
R2281 10k
C2232 0.01
FIX/VAR SW
MC14066BF-TBB
V+12VA
R2318
DCN1092- -T
HN1B04FU-TLB
Q2218
R2319 22k
R2320 22k
R2317
DCN1092- -T
IC2203
R2325 10k
R2324 22k
⑥
⑦
4.7V
L:FIX H:VAR
H:MUTE ON
L:LR H:CENTER
H:MUTE ON
LIN
GND
RIN
GND
VARL
GNDPRE
VARR
GND
V/FSW
V/FMUTE
CENTSW
GND
MON/TVMUTE
GNDIP
GNDIP
GNDIP
V+4IP
V+4IP
V+4IP
CN2206
19P250K-1.25FJNA
S6
V+4IP
GNDIP
V+4IP
GNDIP
3DY/C BLOCK
B 3/5
V+12V2
R2295 0
V+12V2
COMPONENTSW BLOCK
B 2/5
J 5/5 CN5501 V8
CENTER IN
AUDIO OUT
CN2201
AKB1293-2/2
C
L
R
C2239 1.0/50
R2311 100k
R2293 62k
R2313 220
R2312 47k
R2314 10k
Q2217
C2249 0.01
R2323 47k
R2333 2.2K
Q2227
R2343 100k
R2344 360 1/10W
R2346 360 1/10W
R2347 820
C2255 1.0/50
R2349 220
Q2225
R2350 220
Q2226
R2345 360 1/10W
C2256 1.0/50
R2348 820
R2354 100k
R2355 360 1/10W
Q2228
R2356 2.2K
R2357 3.3K
R2358 3.3K
R2359 22k
R2360 22k
Q2229
Q2230
R2362 10k
R2361 22k
GNDA
4.5-4.7V
NOTE
RESISTOR Ω
RS1/16S***J-T
1/10W RS1/10S***J-T
TRANSISTORS
2SA1162(YGR)-TBB
2SC2712(YGR)-TBB
DIODES
1SS355-TRB
1SS226-TRB
CAPACITORS μF(Un Marked Type)
YB 1.0/10 CKSQYB105K10-T
YF CKSRYF
YB CKSRYB
CH CCSRCH
CEAT
NP CEANP

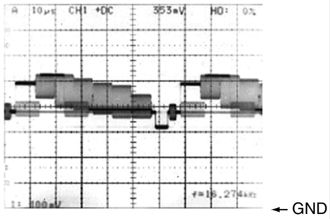
B 1/5

WAVEFORMS and VOLTAGES

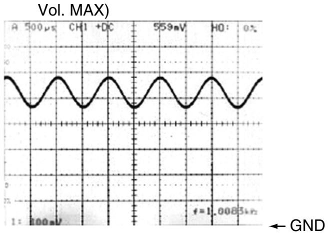
Note : The encircled numbers denote measuring point in the schematic diagram.

B 1/5 SIGNAL ASSY

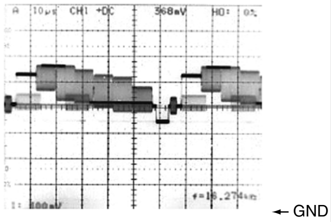
④ **IC2201-pin 56 (Main V/Y)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1, EIA color-bar)



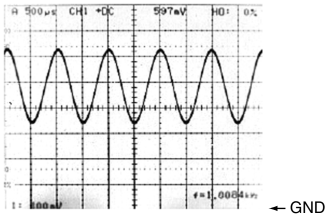
⑥ **CN2206-pin 1 (AUDIO L, signal out)**
V: 1V/div. H: 500µsec/div.
(Input : INPUT1, 1kHz, 400mVrms, Vol. MAX)



⑤ **IC2201-pin 41 (Sub V/Y)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1, EIA color-bar)



⑦ **CN2206-pin 5 (VAR L)**
V: 1V/div. H: 500µsec/div.
(Input : INPUT1, 1kHz, 400mVrms, Vol. 30)



IC2201 (CXA2069Q)

Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)
1	3.9	23	4.5	45	4.5
2	4.5	24	3.9	46	3.7
3	3.9	25	4.5	47	4.4
4	4.5	26	4.4	48	-
5	4.4	27	-	49	3.9
6	-	28	4.9	50	4.5
7	4.9	29	4.5	51	4.4
8	3.9	30	4.0	52	4.5
9	4.5	31	4.5	53	3.6
10	3.9	32	0	54	4.5
11	4.5	33	0/5	55	3.7
12	4.4	34	0/5	56	3.2
13	-	35	0	57	0
14	4.9	36	-	58	4.2
15	3.9	37	4.4	59	0.4
16	4.5	38	4.5	60	4.8
17	3.9	39	3.7	61	0.4
18	4.5	40	4.5	62	4.5
19	4.4	41	3.6	63	4.8
20	-	42	9.0	64	4.5
21	4.9	43	4.5		
22	3.9	44	3.5		

IC2202 (MC14066BF)

Pin	Voltage (V)	Pin	Voltage (V)
1	4.5	8	4.5
2	4.5	9	4.5
3	4.5	10	4.5
4	4.5	11	4.5
5	0/12	12	0/12
6	0/12	13	0/12
7	0	14	12

IC2203 (MC14066BF)

Pin	Voltage (V)	Pin	Voltage (V)
1	4.5	8	4.8
2	4.5/4.8	9	4.5/4.8
3	4.5/4.8	10	4.5/4.8
4	4.8	11	4.5
5	0/12	12	0/12
6	0/12	13	0/12
7	0	14	12

B 2/5 SIGNAL ASSY

IC3901 (CXA2171Q)

Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)
1	2.9	17	0	33	2.9
2	2.9	18	1.0	34	2.9
3	2.9	19	0	35	2.9
4	1.0	20	2.9	36	1.0
5	1.0	21	0	37	1.0
6	0	22	0.2	38	0
7	2.9	23	0	39	2.5
8	2.9	24	0	40	5
9	2.9	25	2.1	41	2.9
10	1.0	26	2.1	42	2.9
11	1.0	27	1.5	43	2.9
12	5.0	28	5.0	44	1.0
13	2.4	29	3.2	45	1.0
14	2.4	30	0-5	46	0
15	3.3	31	0-5	47	2.5
16	2.4	32	0	48	0

IC3906 (CXA2171Q)

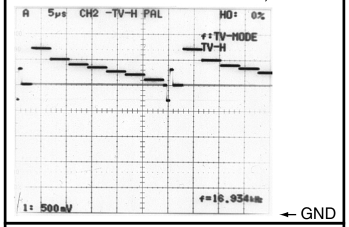
Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)
1	2.9	17	0	33	2.9
2	2.9	18	1.0	34	2.9
3	2.9	19	0	35	3.0
4	1.0	20	2.9	36	1.0
5	1.0	21	0	37	1.0
6	0	22	0	38	0
7	2.9	23	0	39	2.5
8	2.9	24	0	40	5
9	2.9	25	2.1	41	2.8
10	1.0	26	2.1	42	2.8
11	1.0	27	1.5	43	2.8
12	5.0	28	5.0	44	1.0
13	2.5	29	3.2	45	1.0
14	2.4	30	0-5	46	0
15	3.3	31	0-5	47	2.5
16	2.4	32	5.0	48	0

IC3907 (M52055FP)

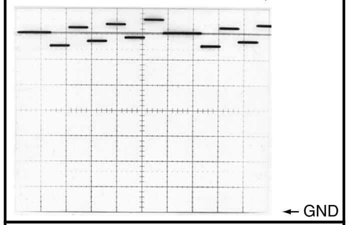
Pin	Voltage (V)
1	4.6
2	5.0
3	3.2
4	0
5	3.2
6	3.2
7	5.0
8	4.6
9	4.6
10	0
11	4.6
12	5.0
13	9.0
14	4.6
15	0
16	4.6

B 2/5 SIGNAL ASSY

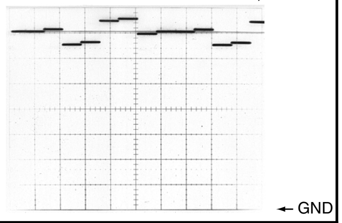
⑧ Foot of R3940 (MY)
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT1 (COMPONENT), 1080I
100/0/75/0 Full Field color-bar)



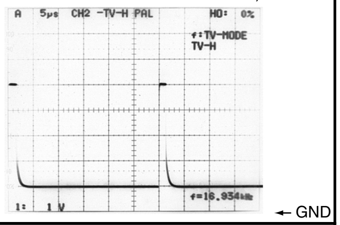
⑨ Foot of R3936 (MCB)
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT1 (COMPONENT), 1080I
100/0/75/0 Full Field color-bar)



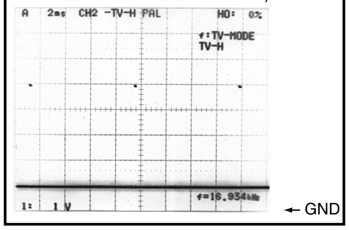
⑩ Foot of R3932 (MCR)
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT1 (COMPONENT), 1080I
100/0/75/0 Full Field color-bar)



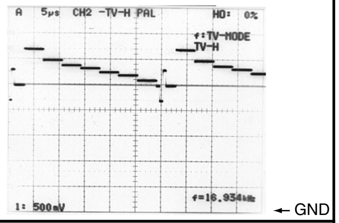
⑪ CN3905 - pin 16 (MH)
V: 1V/div. H: 5μsec/div.
(Input : INPUT1 (COMPONENT), 1080I
100/0/75/0 Full Field color-bar)



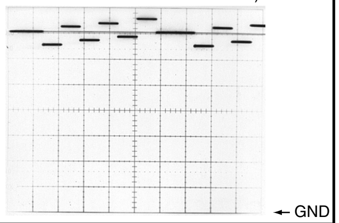
⑫ CN3905 - pin 17 (MV)
V: 1V/div. H: 2msec/div.
(Input : INPUT1 (COMPONENT), 1080I
100/0/75/0 Full Field color-bar)



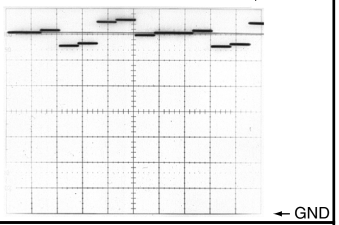
⑬ Foot of R4087 (SY)
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT1 (COMPONENT), 1080I
100/0/75/0 Full Field color-bar)



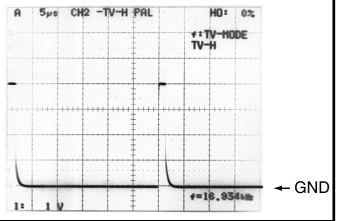
⑭ Foot of R4085 (SCB)
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT1 (COMPONENT), 1080I
100/0/75/0 Full Field color-bar)



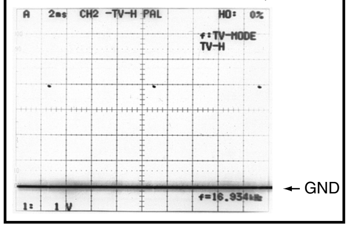
⑮ Foot of R4082 (SCR)
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT1 (COMPONENT), 1080I
100/0/75/0 Full Field color-bar)



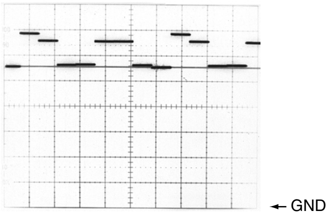
⑯ IC3906 - pin 22 (SH)
V: 1V/div. H: 5μsec/div.
(Input : INPUT1 (COMPONENT), 1080I
100/0/75/0 Full Field color-bar)



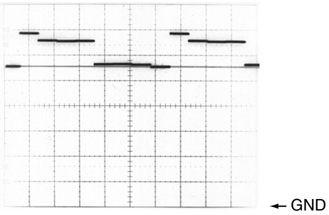
⑰ IC3906 - pin 23 (SV)
V: 1V/div. H: 2msec/div.
(Input : INPUT1 (COMPONENT), 1080I
100/0/75/0 Full Field color-bar)



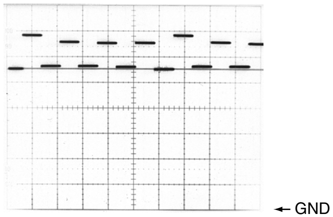
⑱ CN3905 - pin 5 (R)
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT3 (RGB), 1080I
100/0/75/0 Full Field color-bar)



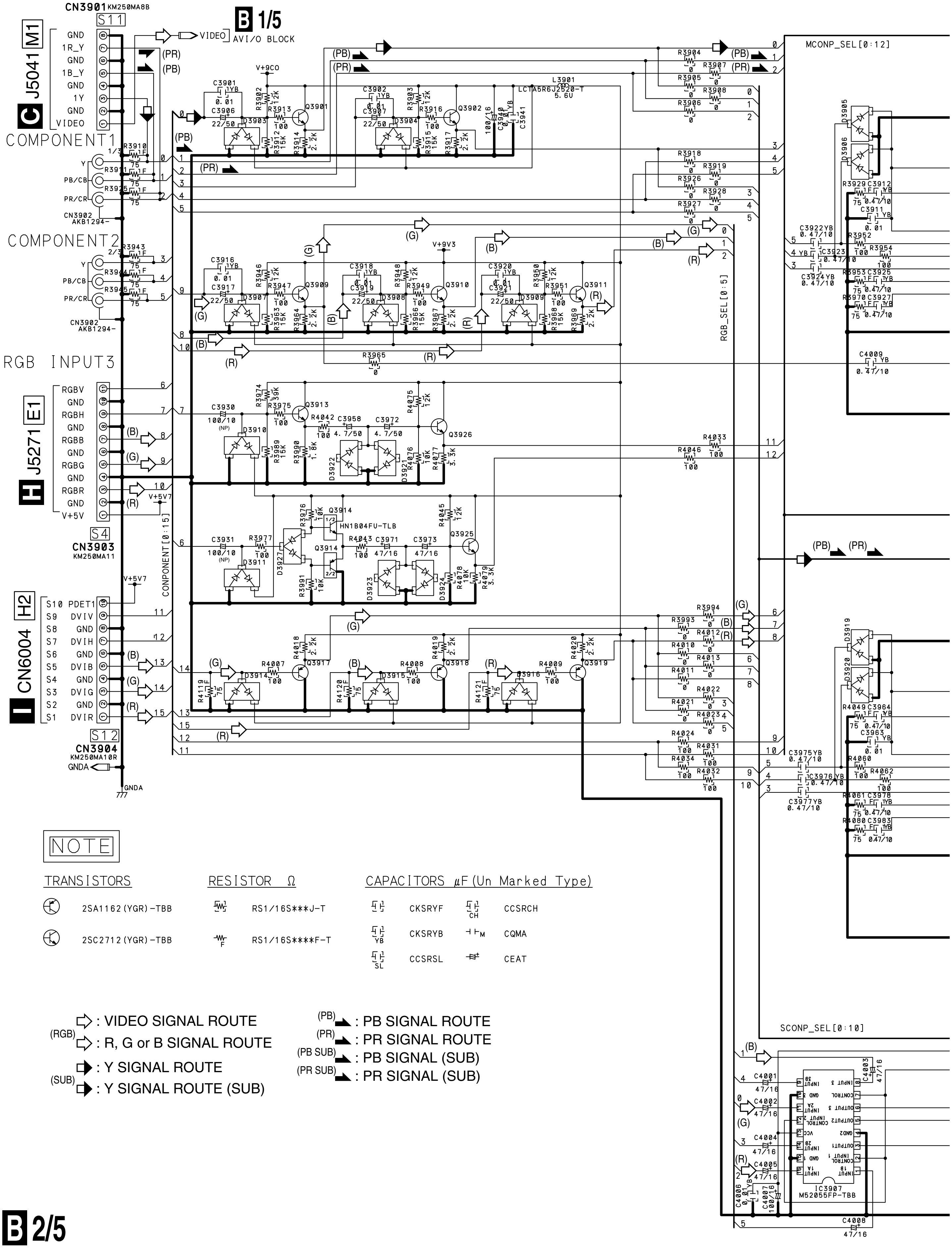
⑲ CN3905 - pin 3 (G)
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT3 (RGB), 1080I
100/0/75/0 Full Field color-bar)



⑳ CN3905 - pin 1 (B)
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT3 (RGB), 1080I
100/0/75/0 Full Field color-bar)

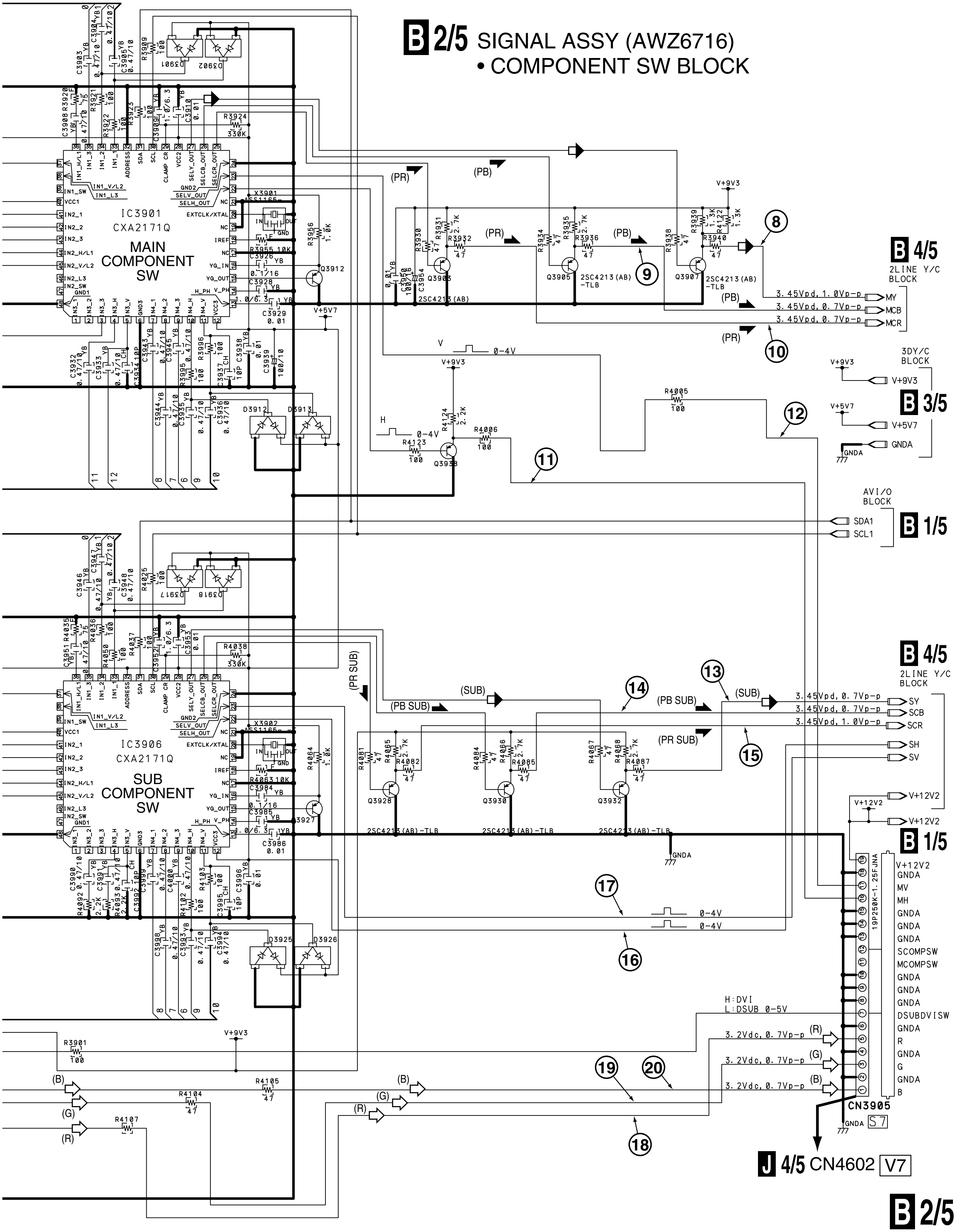


3.6 SIGNAL ASSY (2/5)


CN3901 KM250MA8B
S11
C J5041 M1
GND
1R_Y
GND
1B_Y
GND
1Y
GND
VIDEO
VIDEO
B 1/5 AVI/O BLOCK
(PR)
(PB)
COMPONENT1
Y
PB/CB
PR/CR
CN3902 AKB1294-
COMPONENT2
Y
PB/CB
PR/CR
CN3902 AKB1294-
RGB INPUT3
H J5271 E1
RGBV
GND
RGBH
GND
RGBB
GND
RGBG
GND
RGBR
GND
V+5V
S4
CN3903 KM250MA11
I CN6004 H2
S10 PDET1
S9 DVIV
S8 GND
S7 DVIH
S6 GND
S5 DVIB
S4 GND
S3 DVIG
S2 GND
S1 DVIR
S12
CN3904 KM250MA10R
GNDA
CONPONENT[0:15]
V+9CO
V+9V3
V+5V7
L3901 LCTA5R6J2520-T 5.6U
Q3901
Q3902
Q3909
Q3910
Q3911
Q3913
Q3926
Q3914 HN1B04FU-TLB
Q3925
Q3917
Q3918
Q3919
MCONP_SEL[0:12]
RGB_SEL[0:5]
SCONP_SEL[0:10]
D3905
D3906
D3919
D3920
IC3907 M52055FP-TBB
INPUT 3
CONTROL
OUTPUT 3
OUTPUT2
GND2
OUTPUT1
INPUT 1
INPUT 1B
INPUT 3B
GND 3
INPUT 2A
CONTROL 2
VCC
INPUT 2B
GND 1
INPUT 1A
NOTE
TRANSISTORS
2SA1162(YGR)-TBB
2SC2712(YGR)-TBB
RESISTOR Ω
RS1/16S***J-T
RS1/16S****F-T
CAPACITORS μF(Un Marked Type)
CKSRYF
CKSRYB
CCSRSL
CCSRCH
CQMA
CEAT
: VIDEO SIGNAL ROUTE
(RGB) : R, G or B SIGNAL ROUTE
: Y SIGNAL ROUTE
(SUB) : Y SIGNAL ROUTE (SUB)
(PB) : PB SIGNAL ROUTE
(PR) : PR SIGNAL ROUTE
(PB SUB) : PB SIGNAL (SUB)
(PR SUB) : PR SIGNAL (SUB)

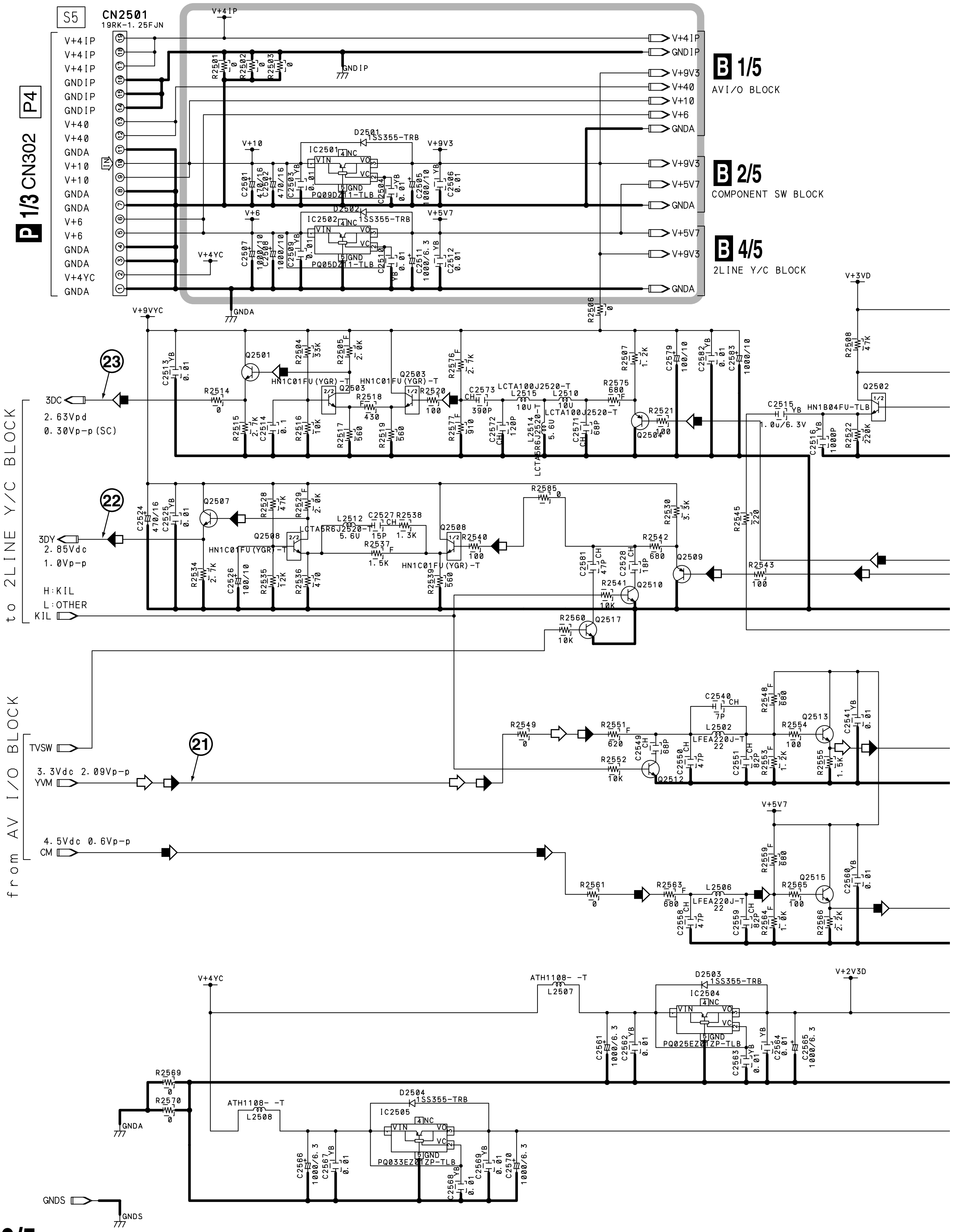
B 2/5

B 2/5 SIGNAL ASSY (AWZ6716)
• COMPONENT SW BLOCK


IC3901
CXA2171Q
MAIN
COMPONENT
SW
IC3906
CXA2171Q
SUB
COMPONENT
SW
X3901
X3902
ASS1165-
Q3903
Q3905
Q3907
Q3912
Q3938
Q3927
Q3928
Q3930
Q3932
2SC4213(AB)
2SC4213(AB)-TLB
D3901
D3902
D3912
D3913
D3917
D3918
D3925
D3926
R3924 330K
R4038 330K
R3955 10K
R4063 10K
R3956 1.0K
R4064 1.0K
R4005 100
R4006 100
R4123 100
R4124 2.2K
R3901 100
R4104 47
R4105 47
R4107
V+9V3
V+5V7
V+12V2
(PR)
(PB)
(SUB)
(PB SUB)
(PR SUB)
V 0-4V
H 0-4V
3.45Vpd, 1.0Vp-p MY
3.45Vpd, 0.7Vp-p MCB
3.45Vpd, 0.7Vp-p MCR
3.45Vpd, 0.7Vp-p SY
3.45Vpd, 0.7Vp-p SCB
3.45Vpd, 1.0Vp-p SCR
SH
SV
B 4/5 2LINE Y/C BLOCK
3DY/C BLOCK
B 3/5
V+9V3
V+5V7
GNDA
AVI/O BLOCK
B 1/5
SDA1
SCL1
B 4/5 2LINE Y/C BLOCK
V+12V2
B 1/5
H:DVI
L:DSUB 0-5V
3.2Vdc, 0.7Vp-p (R)
3.2Vdc, 0.7Vp-p (G)
3.2Vdc, 0.7Vp-p (B)
(B)
(G)
(R)
19P250K-1.25FJNA
V+12V2
GNDA
MV
MH
GNDA
GNDA
GNDA
SCOMPSW
MCOMPSW
GNDA
GNDA
GNDA
DSUBDVISW
GNDA
R
GNDA
G
GNDA
B
CN3905
GNDA S7
J 4/5 CN4602 V7
8
9
10
11
12
13
14
15
16
17
18
19
20

B 2/5

3.7 SIGNAL ASSY (3/5)

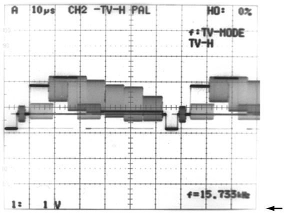

S5
CN2501
19RK-1.25FJN
P4
P 1/3 CN302
V+4IP
V+4IP
V+4IP
GNDIP
GNDIP
GNDIP
V+40
V+40
GNDA
V+10
V+10
GNDA
GNDA
V+6
V+6
GNDA
GNDA
V+4YC
GNDA
IN
R2501 0
R2502 0
R2503 0
GNDIP
D2501 1SS355-TRB
IC2501
PQ09DZ11-TLB
V+10
V+9V3
C2501 470/16
C2502 470/16
C2503 0.01
C2504 0.01
C2505 1000/10
C2506 0.01
D2502 1SS355-TRB
IC2502
PQ05DZ11-TLB
V+6
V+5V7
V+4YC
C2507 1000/10
C2508 1000/10
C2509 0.01
C2510 0.01
C2511 1000/6.3
C2512 0.01
VIN NC VO VC GND
GNDA
V+4IP
GNDIP
V+9V3
V+40
V+10
V+6
GNDA
B 1/5
AVI/O BLOCK
V+9V3
V+5V7
GNDA
B 2/5
COMPONENT SW BLOCK
V+5V7
V+9V3
GNDA
B 4/5
2LINE Y/C BLOCK
V+3VD
R2506 0
V+9VYC
23
3DC
2.63Vpd
0.30Vp-p(SC)
C2513 0.01
Q2501
HN1C01FU(YGR)-T
Q2503
R2504 33K
R2505 2.0K
R2514 0
R2515 2.7K
C2514 0.1
R2516 10K
R2517 560
R2518 430
R2519 560
R2520 100
R2576 2.7K
R2577 910
C2573 390P
L2515 10U
L2510 10U
LCTA100J2520-T
C2572 120P
L2514 5.6U
LCTA5R6J2520-T
C2571 68P
R2575 680
R2507 1.2K
C2579 100/10
C2582 0.01
C2583 1000/10
R2521 100
Q2504
C2515 1.0U/6.3V
C2516 1000P
R2522 220K
R2508 47K
Q2502
HN1B04FU-TLB
22
3DY
2.85Vdc
1.0Vp-p
H:KIL
L:OTHER
KIL
B 4/5
to 2LINE Y/C BLOCK
C2524 470/16
C2525 0.01
Q2507
R2528 47K
R2529 2.0K
Q2508
HN1C01FU(YGR)-T
L2512 5.6U
LCTA5R6J2520-T
C2527 15P
R2538 1.3K
R2537 1.5K
R2540 100
R2534 2.7K
C2526 100/10
R2535 12K
R2536 470
R2539 560
R2585 0
R2530 3.3K
C2581 47P
C2528 18P
R2542 680
Q2509
R2541 10K
Q2510
R2543 100
R2545 220
R2560 10K
Q2517
TVSW
21
3.3Vdc 2.09Vp-p
YVM
4.5Vdc 0.6Vp-p
CM
B 1/5
from AV I/O BLOCK
R2549 0
R2551 620
R2552 10K
C2549 68P
Q2512
C2540 7P
L2502 22
LFEA220J-T
C2550 47P
C2551 82P
R2553 1.2K
R2548 680
R2554 100
Q2513
R2555 1.5K
C2541 0.01
V+5V7
R2561 0
R2563 680
L2506 22
LFEA220J-T
C2558 47P
C2559 82P
R2564 1.0K
R2559 680
R2565 100
Q2515
R2566 2.2K
C2560 0.01
V+4YC
ATH1108- -T
L2507
D2503 1SS355-TRB
IC2504
PQ025EZ01ZP-TLB
V+2V3D
C2561 1000/6.3
C2562 0.01
C2563 0.01
C2564 0.01
C2565 1000/6.3
R2569 0
R2570 0
GNDA
D2504 1SS355-TRB
ATH1108- -T
L2508
IC2505
PQ033EZ01ZP-TLB
C2566 1000/6.3
C2567 0.01
C2568 0.01
C2569 0.01
C2570 1000/6.3
GNDS
GNDS

B 3/5

B 3/5 SIGNAL ASSY (AWZ6716)
• 3D Y/C SEP BLOCK

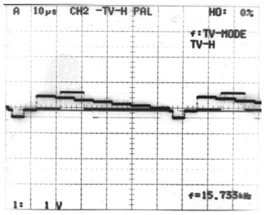
⇨ : VIDEO SIGNAL ROUTE
⇨ : Y SIGNAL ROUTE
⇨ : C SIGNAL ROUTE

㉑ **Foot of R2549 (YVM)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE), EIA color-bar)



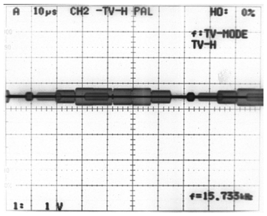
← GND

㉒ **Q2507 Emitter (3DY)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE), EIA color-bar)

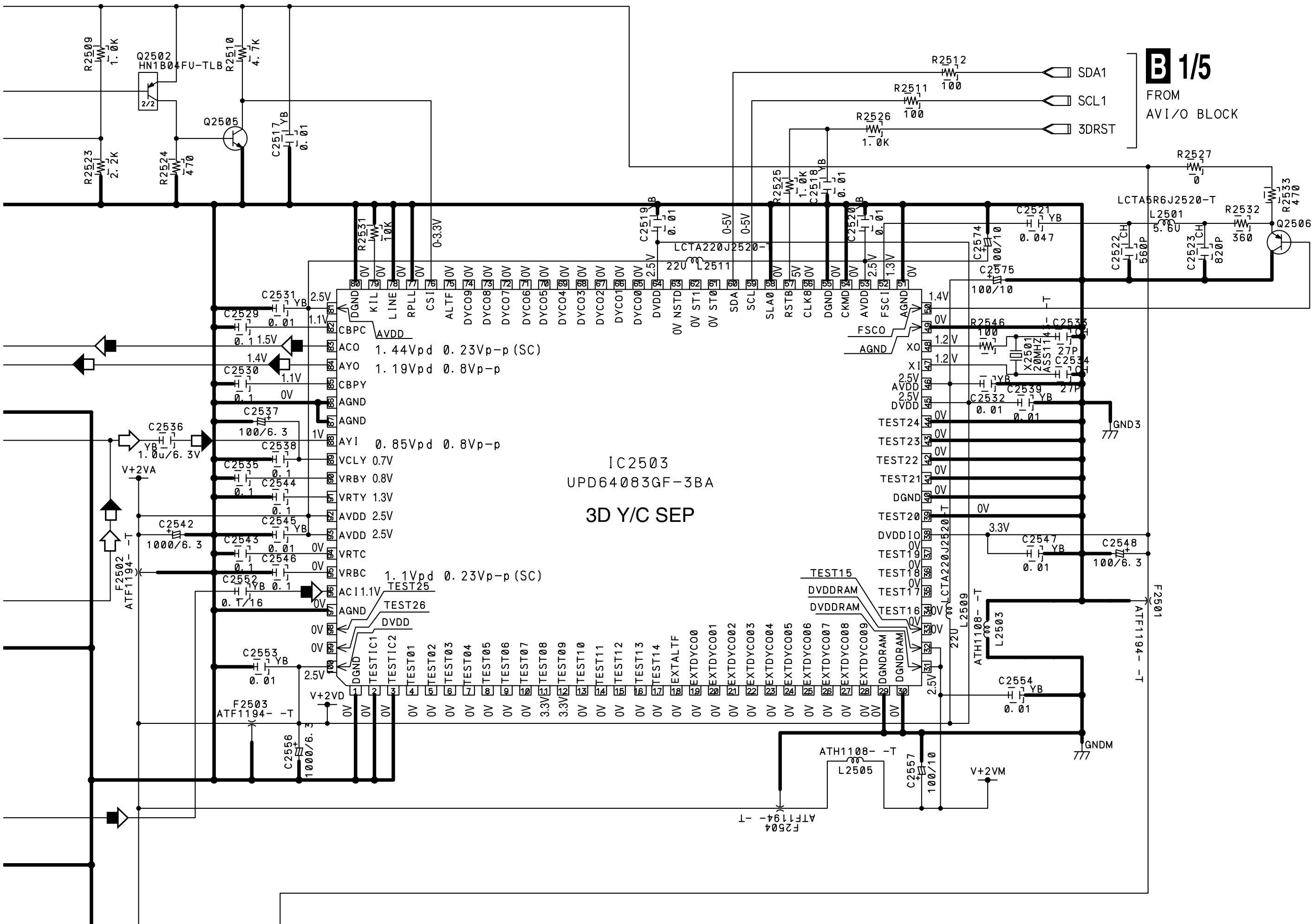


← GND

㉓ **Foot of R2514 (3DC)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE), EIA color-bar)



← GND


R2509 1.0K
Q2502 HN1B04FU-TLB
R2510 4.7K
Q2505
C2517 YB 0.01
R2523 2.2K
R2524 470
R2512 100
R2511 100
R2526 1.0K
SDA1
SCL1
3DRST
B 1/5
FROM AV I/O BLOCK
R2527 0
R2525 1.0K
C2518 YB 0.01
R2531 10K
0-3.3V
C2519 YB 0.01
0-5V
0-5V
LCTA220J2520-T
22U L2511
C2520 YB 0.01
C2574 100/10
C2575 100/10
C2521 YB 0.047
LCTA5R6J2520-T
L2501 5.6U
R2532 360
R2533 470
Q2506
C2522 CH 560P
C2523 CH 820P
C2531 YB 0.01
C2529 0.1
C2530 0.1
C2537 100/6.3
C2536 YB 1.0u/6.3V
C2538 0.1
C2535 0.1
C2544 0.1
V+2VA
C2542 1000/6.3
C2545 YB 0.1
C2543 0.01
C2546 0.1
C2552 YB 0.1/16
F2502 ATF1194-T
C2553 YB 0.01
F2503 ATF1194-T
C2556 1000/6.3
V+2VD
R2546 100
X2501 20MHZ ASS1114-T
C2533 CH 27P
C2534 CH 27P
C2539 YB 0.01
C2532 0.01
GND3
C2547 YB 0.01
C2548 100/6.3
F2501 ATF1194-T
L2509 22U LCTA220J2520-T
L2503 ATH1108-T
C2554 YB 0.01
GNDM
ATH1108-T L2505
C2557 100/10
V+2VM
F2504 ATF1194-T
IC2503
UPD64083GF-3BA
3D Y/C SEP
1.44Vpd 0.23Vp-p (SC)
1.19Vpd 0.8Vp-p
0.85Vpd 0.8Vp-p
1.1Vpd 0.23Vp-p (SC)
DGND KIL LINE RPLL CSI ALTF DYCO9 DYCO8 DYCO7 DYCO6 DYCO5 DYCO4 DYCO3 DYCO2 DYCO1 DYCO0 DVDD NSTD ST1 ST0 SDA SCL SLA0 RSTB CLK8 DGND CKMD AVDD FSCI AGND
CBPC ACO AYO CBPY AGND AGND AYI VCLY VRBY VRTY AVDD AVDD VRTC VRBC ACI AGND
FSCO AGND XO XI AVDD DVDD TEST24 TEST23 TEST22 TEST21 DGND TEST20 DVDDIO TEST19 TEST18 TEST17 TEST16
TEST15 DVDDRAM DVDDRAM TEST25 TEST26 DVDD
DGND TESTIC1 TESTIC2 TEST01 TEST02 TEST03 TEST04 TEST05 TEST06 TEST07 TEST08 TEST09 TEST10 TEST11 TEST12 TEST13 TEST14 EXTALTF EXTDYCO01 EXTDYCO02 EXTDYCO03 EXTDYCO04 EXTDYCO05 EXTDYCO06 EXTDYCO07 EXTDYCO08 EXTDYCO09 DGNDRAM DGNDRAM
AVDD
2.5V 1.1V 1.5V 1.4V 1.1V 0V 1V 0.7V 0.8V 1.3V 2.5V 2.5V 1.1V 1.4V 1.2V 1.2V 3.3V 0.3V 0V

NOTE

RESISTOR Ω	
	RS1/16S***J-T
F	RS1/16S****F-T

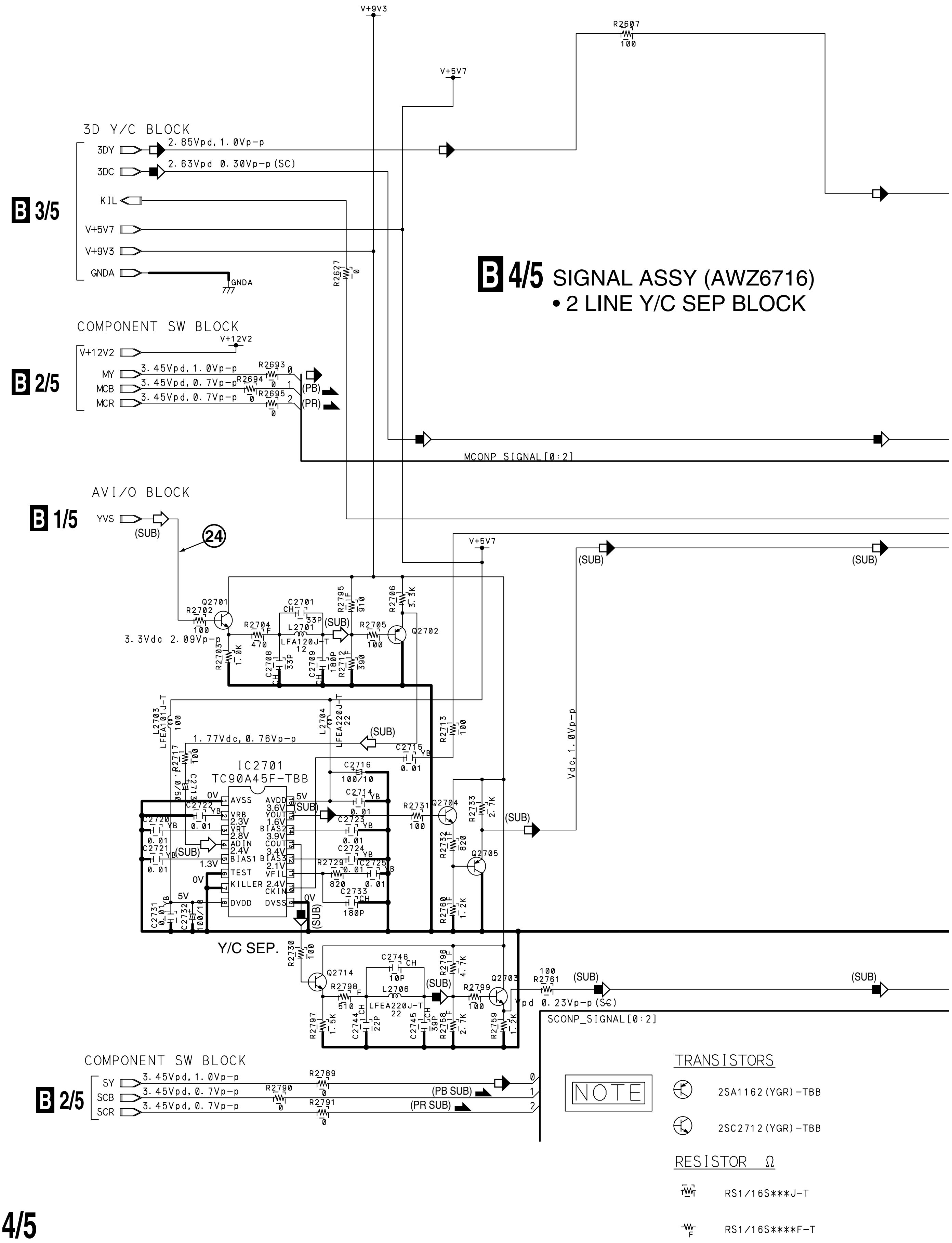
CAPACITORS µF (Un Marked Type)	
	CKSRYF
YB	CKSRYB
SL	CCSRSL
CH	CCSRCH
M	CQMA
	CEAT

TRANSISTORS	
	2SA1162(YGR)-TBB
	2SC2712(YGR)-TBB

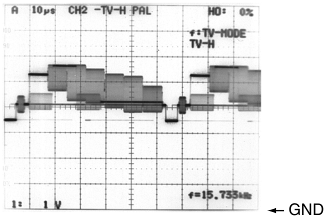
GND3

⬭ : The power supply is shown with the marked box.

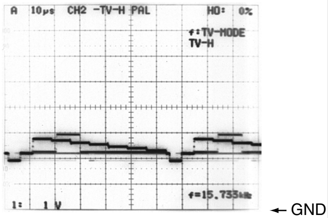
3.8 SIGNAL ASSY (4/5)


B 4/5 SIGNAL ASSY (AWZ6716)
• 2 LINE Y/C SEP BLOCK
B 3/5
3D Y/C BLOCK
3DY
3DC
KIL
V+5V7
V+9V3
GNDA
2. 85Vpd, 1. 0Vp-p
2. 63Vpd 0. 30Vp-p (SC)
B 2/5
COMPONENT SW BLOCK
V+12V2
MY
MCB
MCR
3. 45Vpd, 1. 0Vp-p
3. 45Vpd, 0. 7Vp-p
R2693 0
R2694 0
R2695 0
(PB)
(PR)
MCONP SIGNAL[0:2]
B 1/5
AVI/O BLOCK
YVS
(SUB)
24
R2607 100
R2627 0
Q2701
Q2702
R2702 100
R2703 1.0k
R2704 470
C2701 33P
L2701 LFA120J-T 12
C2708 33P
C2709 180P
R2795 910
R2705 100
R2706 3.3k
R2712 390
3. 3Vdc 2. 09Vp-p
L2703 LFEA101J-T 100
L2704 LFEA220J-T 22
1. 77Vdc, 0. 76Vp-p
R2717 100
C2713 0/50
C2715 0.01
C2716 100/10
R2713 100
IC2701
TC90A45F-TBB
AVSS VRB VRT ADIN BIAS1 TEST KILLER DVDD
AVDD YOUT BIAS2 COUT BIAS3 VFIL CKIN DVSS
C2720 0.01
C2721 0.01
C2722 0.01
C2714 0.01
C2723 0.01
C2724 0.01
C2725 0.01
C2733 180P
R2729 820
C2731 0.01
C2732 100/10
R2731 100
Q2704
Q2705
R2733 2.7k
R2732 820
R2760 1.2k
Vdc, 1. 0Vp-p
Y/C SEP.
R2730 100
Q2714
C2746 10P
L2706 LFEA220J-T 22
R2798 510
R2796 4.7k
R2799 100
Q2703
R2761 100
Ypd 0. 23Vp-p (SC)
R2797 1.5k
C2744 22P
C2745 39P
R2758 2.7k
R2759 1.2k
SCONP_SIGNAL[0:2]
COMPONENT SW BLOCK
SY
SCB
SCR
R2789 0
R2790 0
R2791 0
(PB SUB)
(PR SUB)
NOTE
TRANSISTORS
2SA1162(YGR)-TBB
2SC2712(YGR)-TBB
RESISTOR Ω
RS1/16S***J-T
RS1/16S****F-T

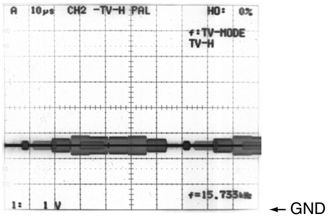
㉔ Foot of R2702 (YVS)
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)

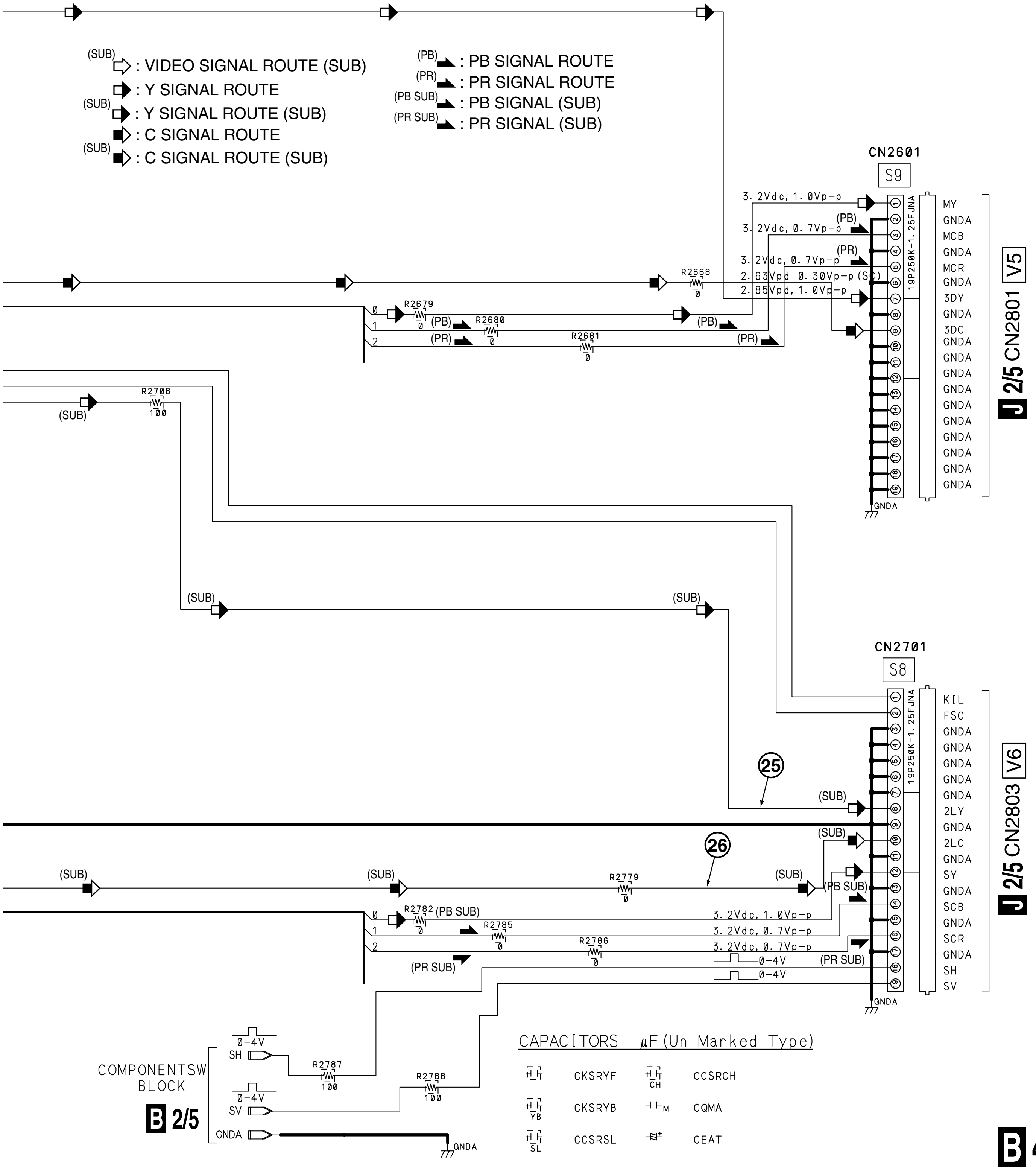


㉕ CN2701 - pin 8 (2LY)
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



㉖ CN2701 - pin 10 (2LC)
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)




(SUB) : VIDEO SIGNAL ROUTE (SUB)
: Y SIGNAL ROUTE
(SUB) : Y SIGNAL ROUTE (SUB)
: C SIGNAL ROUTE
(SUB) : C SIGNAL ROUTE (SUB)
(PB) : PB SIGNAL ROUTE
(PR) : PR SIGNAL ROUTE
(PB SUB) : PB SIGNAL (SUB)
(PR SUB) : PR SIGNAL (SUB)
CN2601
S9
3. 2Vdc, 1. 0Vp-p
3. 2Vdc, 0. 7Vp-p
(PB)
3. 2Vdc, 0. 7Vp-p
(PR)
2. 63Vpd 0. 30Vp-p (SC)
2. 85Vpd, 1. 0Vp-p
19P250K-1. 25FJNA
MY
GNDA
MCB
GNDA
MCR
GNDA
3DY
GNDA
3DC
GNDA
GNDA
GNDA
GNDA
GNDA
GNDA
GNDA
GNDA
GNDA
GNDA
J 2/5 CN2801 V5
R2668
0
R2679
0
R2680
0
R2681
0
(PB)
(PR)
0
1
2
R2708
100
(SUB)
(SUB)
(SUB)
GNDA
CN2701
S8
19P250K-1. 25FJNA
KIL
FSC
GNDA
GNDA
GNDA
GNDA
GNDA
2LY
GNDA
2LC
GNDA
SY
GNDA
SCB
GNDA
SCR
GNDA
SH
SV
J 2/5 CN2803 V6
㉕
㉖
(SUB)
(SUB)
(SUB)
(SUB)
(SUB)
(PB SUB)
R2779
0
R2782
0
(PB SUB)
R2785
0
R2786
0
(PR SUB)
(PR SUB)
3. 2Vdc, 1. 0Vp-p
3. 2Vdc, 0. 7Vp-p
3. 2Vdc, 0. 7Vp-p
0-4V
0-4V
GNDA
COMPONENTSW
BLOCK
B 2/5
0-4V
SH
0-4V
SV
GNDA
R2787
100
R2788
100
GNDA
CAPACITORS µF (Un Marked Type)
CKSRYF
CCSRCH
CH
CKSRYB
YB
CQMA
M
CCSRSL
SL
CEAT

B 4/5

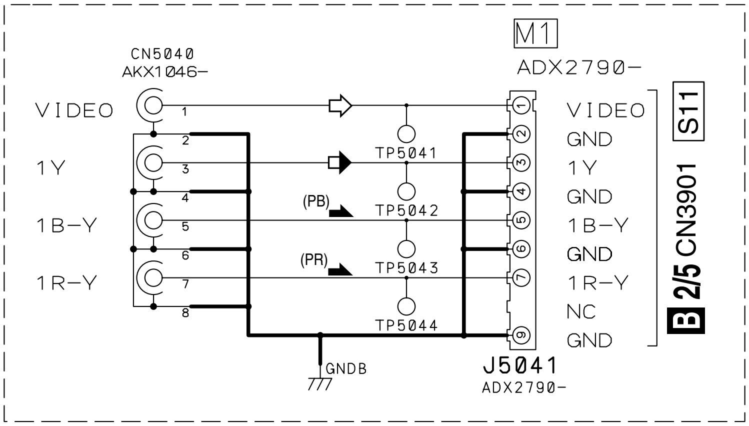
3.9 SIGNAL (5/5),BNC,FRONT CONTROL,LED RLS and REMOTE SENSOR ASSYS

NOTE

1. RESISTORS
   - RS1/16S∗∗∗J-T
2. CAPASITORS
   - YB CKSRYB∗∗∗K50-T
   - CKSRYF∗∗∗Z∗∗-T
   - CH CCSRCH∗∗∗J50-T
   - CEAT∗∗∗M∗∗-T
3. Transister
   - 2SC2712 (YGR) -TLB
   - 2SA1162 (YGR) -TLB
4. DIODES
   - 1SS355-TRB

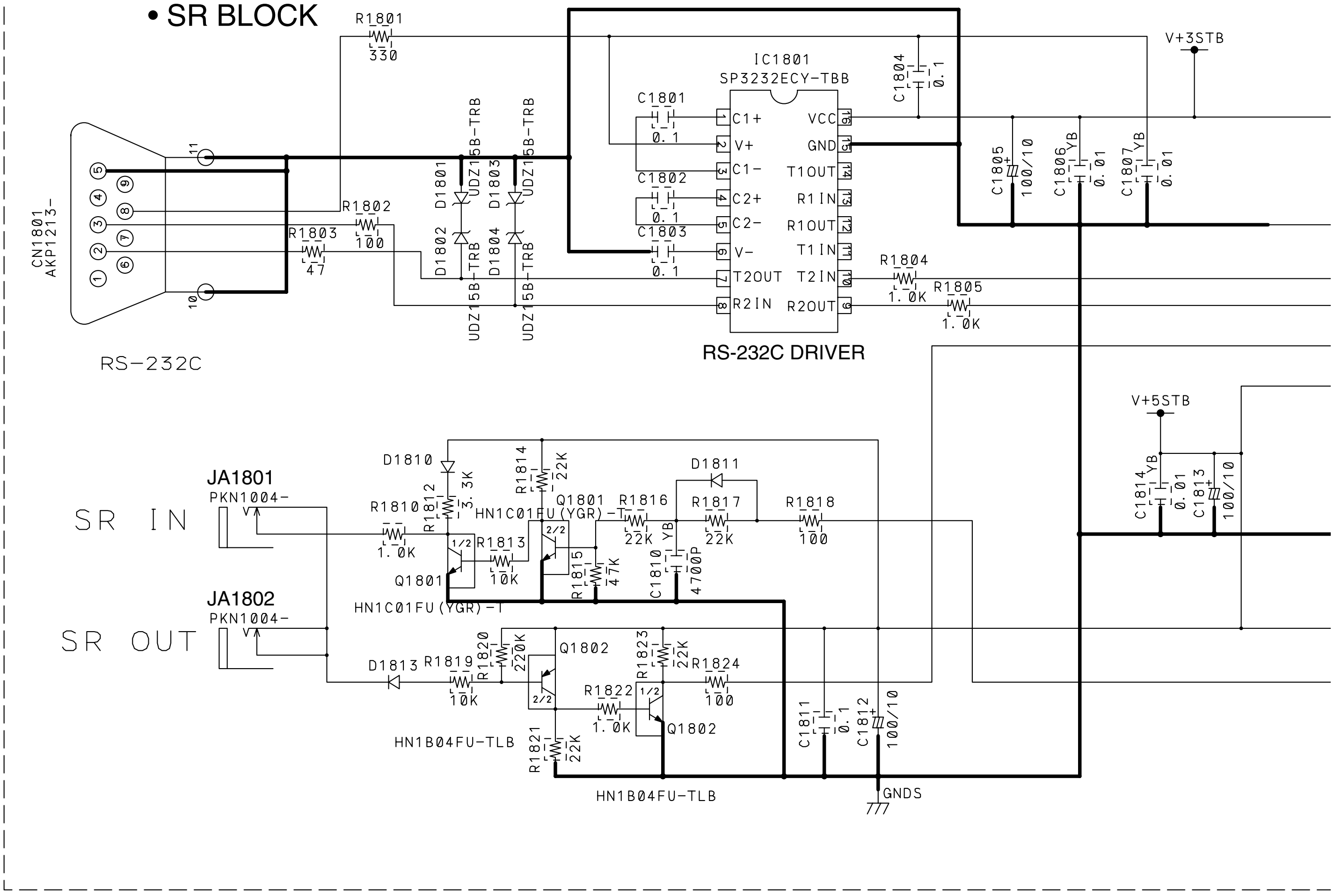
⇨ : VIDEO SIGNAL ROUTE
➡ : Y SIGNAL ROUTE
(PB) : PB SIGNAL ROUTE
(PR) : PR SIGNAL ROUTE

C BNC ASSY (AWZ6720)

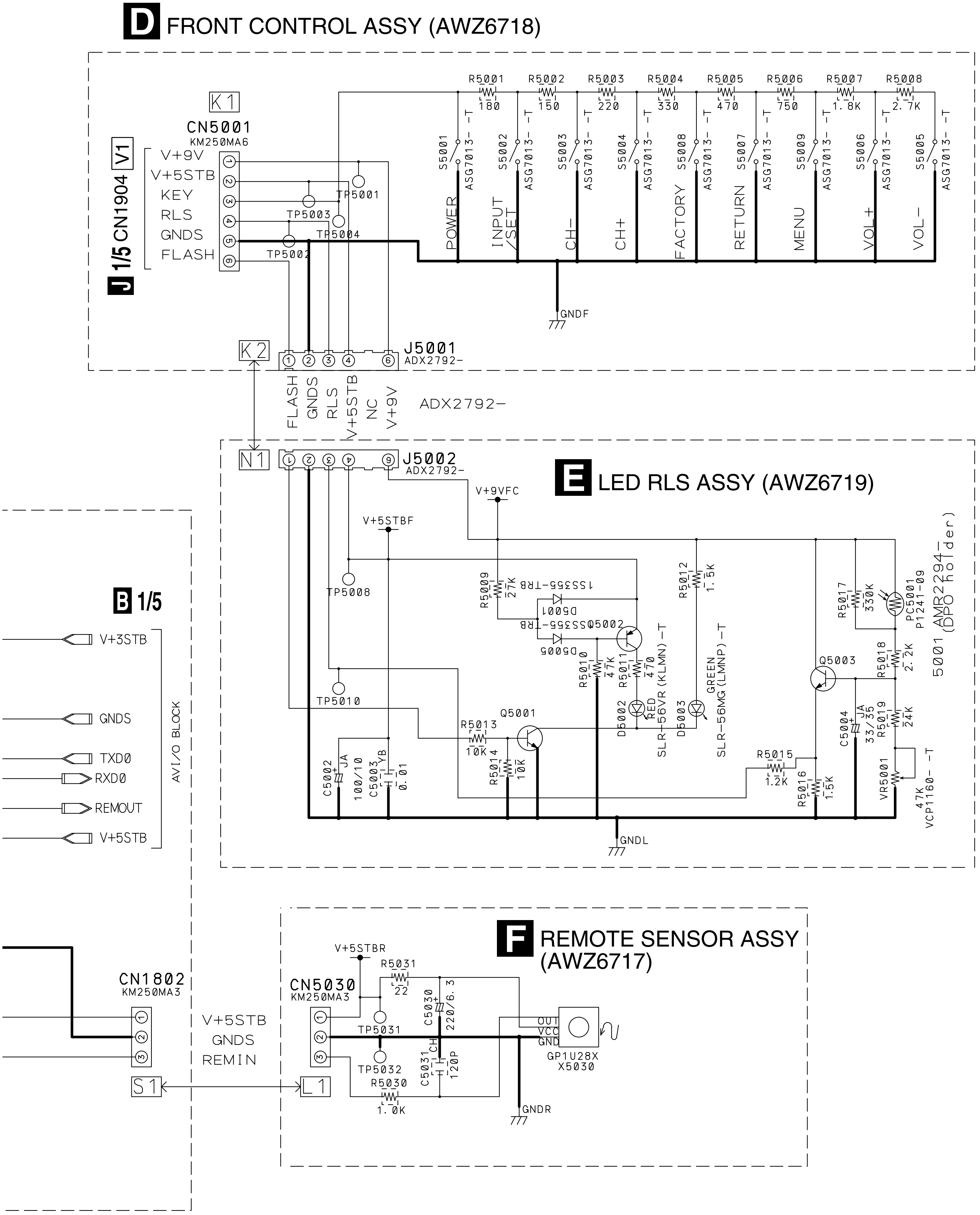

M1
ADX2790-
CN5040
AKX1046-
VIDEO
1Y
1B-Y
1R-Y
1
2
3
4
5
6
7
8
TP5041
TP5042
TP5043
TP5044
(PB)
(PR)
GNDB
J5041
ADX2790-
VIDEO
GND
1Y
GND
1B-Y
GND
1R-Y
NC
GND
S11
B 2/5 CN3901

B 5/5 SIGNAL ASSY (AWZ6716)

• SR BLOCK

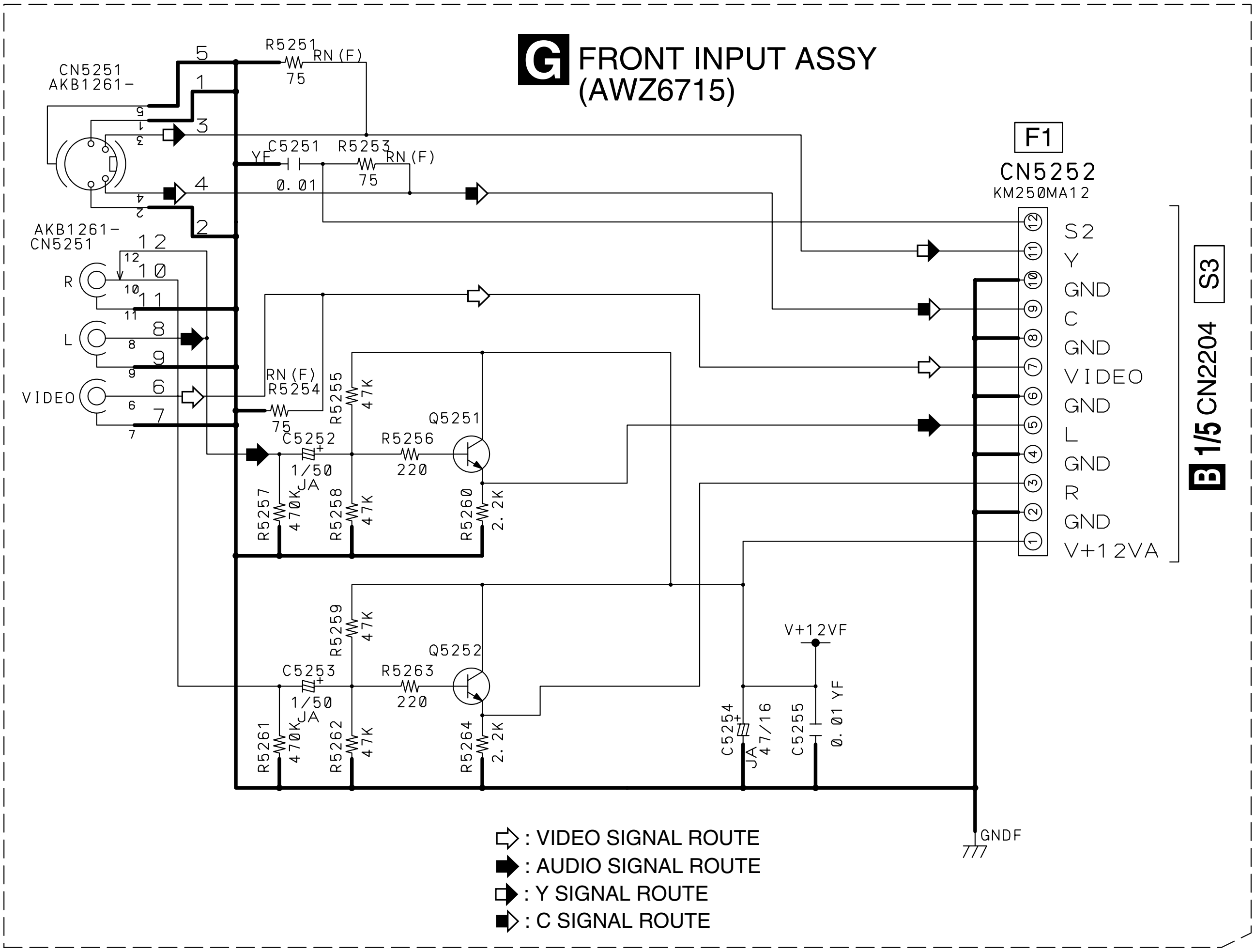

R1801
330
IC1801
SP3232ECY-TBB
C1804
0.1
V+3STB
C1801
0.1
C1+
V+
C1-
C2+
C2-
V-
T2OUT
R2IN
VCC
GND
T1OUT
R1IN
R1OUT
T1IN
T2IN
R2OUT
C1802
0.1
C1803
0.1
C1805
100/10
C1806
YB
0.01
C1807
YB
0.01
D1801
D1802
D1803
D1804
UDZ15B-TRB
CN1801
AKP1213-
R1802
100
R1803
47
R1804
1.0K
R1805
1.0K
RS-232C
RS-232C DRIVER
V+5STB
C1814
YB
0.01
C1813
100/10
JA1801
PKN1004-
SR IN
D1810
R1812
3.3K
R1814
22K
Q1801
HN1C01FU (YGR) -T
R1816
22K
D1811
R1817
22K
R1818
100
R1810
1.0K
R1813
10K
R1815
47K
C1810
YB
4700P
Q1801
HN1C01FU (YGR) -T
JA1802
PKN1004-
SR OUT
D1813
R1819
10K
R1820
220K
Q1802
R1823
22K
R1824
100
R1822
1.0K
Q1802
HN1B04FU-TLB
R1821
22K
HN1B04FU-TLB
C1811
0.1
C1812
100/10
GNDS

B 5/5 C


D FRONT CONTROL ASSY (AWZ6718)
K1
CN5001
KM250MA6
J 1/5 CN1904 V1
V+9V
V+5STB
KEY
RLS
GNDS
FLASH
TP5001
TP5002
TP5003
TP5004
R5001 180
R5002 150
R5003 220
R5004 330
R5005 470
R5006 750
R5007 1.8K
R5008 2.7K
S5001 ASG7013- -T
S5002 ASG7013- -T
S5003 ASG7013- -T
S5004 ASG7013- -T
S5008 ASG7013- -T
S5007 ASG7013- -T
S5009 ASG7013- -T
S5006 ASG7013- -T
S5005 ASG7013- -T
POWER
INPUT /SET
CH−
CH+
FACTORY
RETURN
MENU
VOL+
VOL−
GNDF
K2
J5001
ADX2792-
FLASH
GNDS
RLS
V+5STB
NC
V+9V
ADX2792-
N1
J5002
ADX2792-
E LED RLS ASSY (AWZ6719)
V+9VFC
V+5STBF
TP5008
TP5010
R5009 27K
1SS355-TRB
D5001
1SS355-TRB
D5005
Q5002
R5010 47K
R5011 470
D5002 RED SLR-56VR(KLMN)-T
R5012 1.5K
D5003 GREEN SLR-56MG(LMNP)-T
Q5001
R5013 10K
R5014 10K
C5002 JA 100/10
C5003 YB 0.01
Q5003
R5015 1.2K
R5016 1.5K
C5004 JA 33/35
R5017 330K
PC5001 P1241-09
5001 AMR2294- (DPO holder)
R5018 2.2K
R5019 24K
VR5001 47K VCP1160- -T
GNDL
B 1/5
V+3STB
GNDS
TXD0
RXD0
REMOUT
V+5STB
AV I/O BLOCK
CN1802
KM250MA3
V+5STB
GNDS
REMIN
S1
L1
F REMOTE SENSOR ASSY (AWZ6717)
V+5STBR
CN5030
KM250MA3
R5031 22
C5030 220/6.3
TP5031
TP5032
C5031 CH 120P
R5030 1.0K
OUT
VCC
GND
GP1U28X
X5030
GNDR

B 5/5 D E F

3.10 FRONT INPUT and D-SUB ASSYS


G FRONT INPUT ASSY
(AWZ6715)
CN5251
AKB1261-
AKB1261-
CN5251
R
L
VIDEO
R5251 RN(F) 75
C5251 YF 0.01
R5253 RN(F) 75
RN(F) R5254 75
C5252 1/50 JA
R5255 47K
R5256 220
Q5251
R5257 470K
R5258 47K
R5260 2.2K
R5259 47K
C5253 1/50 JA
R5263 220
Q5252
R5261 470K
R5262 47K
R5264 2.2K
C5254 JA 47/16
C5255 0.01 YF
V+12VF
GNDF
F1
CN5252
KM250MA12
12 S2
11 Y
10 GND
9 C
8 GND
7 VIDEO
6 GND
5 L
4 GND
3 R
2 GND
1 V+12VA
S3
B 1/5 CN2204
: VIDEO SIGNAL ROUTE
: AUDIO SIGNAL ROUTE
: Y SIGNAL ROUTE
: C SIGNAL ROUTE

NOTE

1. RESISTORS

-W- RD1/4PU***J-T

2. CAPASITORS

YF CKCYF***Z50-T

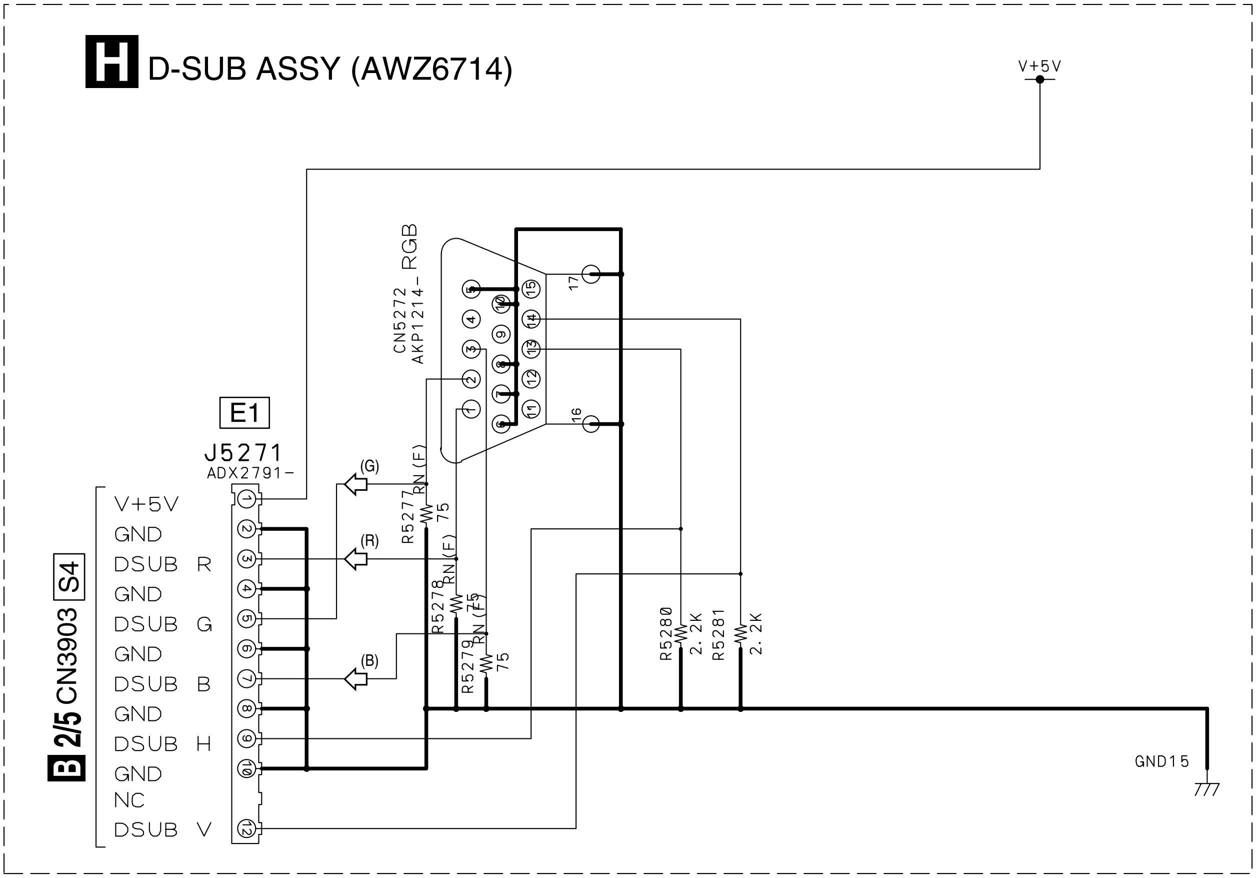
CEAT***M**-T

JA CEJA***M50-T

3. Transister

2SC1740(RS)-T

H D-SUB ASSY (AWZ6714)


V+5V
CN5272
AKP1214- RGB
17
16
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
E1
J5271
ADX2791-
(G)
(R)
(B)
R5277
RN (F)
75
R5278
RN (F)
75
R5279
RN (F)
75
R5280
2.2K
R5281
2.2K
GND15
B 2/5 CN3903 S4
V+5V
GND
DSUB R
GND
DSUB G
GND
DSUB B
GND
DSUB H
GND
NC
DSUB V

(RGB)⇨: R, G or B SIGNAL ROUTE

This page intentionally left blank

This page intentionally left blank

This page intentionally left blank

J 1/5 VIDEO UCOM SERVICE ASSY

IC1906 (PD5815A8)

No	Voltage (V)	No	Voltage (V)
1	0	51	0
2	0	52	3.3
3	0/5	53	3.3
4	0/5	54	0
5	0	55	-
6	0	56	0
7	0	57	0
8	0	58	3.3
9	0	59	3.3
10	0	60	3.3
11	3.3	61	3.3
12	3.3	62	0/3.0
13	0/3.3	63	3.3
14	0	64	0/3.0
15	1.3/1.7	65	3.0
16	3.3	66	-
17	0	67	-
18	-	68	-
19	3.2	69	-
20	0	70	-
21	0	71	-
22	0	72	3.3
23	0/3.3	73	3.3
24	3.3	74	3.3
25	0/3.3	75	3.3
26	0/3.3	76	3.0
27	3.3	77	0
28	0/5	78	0
29	0/5	79	0
30	0/5	80	0
31	0/5	81	3.3
32	0	82	3.3
33	0	83	0
34	0	84	0
35	3.3	85	3.3
36	3.3	86	0/3.3
37	3.3	87	0
38	0	88	0
39	0	89	3.3
40	3.3	90	1.6
41	0	91	1.6
42	3.3	92	0
43	3.3	93	2.5
44	0	94	0
45	3.3	95	0
46	3.3	96	0
47	0	97	0
48	3.3	98	1.0
49	0	99	5.0
50	0	100	1.0

IC1905 (M62399FP)

No	Voltage (V)
1	5.0
2	0/5
3	0/5
4	3.0
5	5.4
6	-
7	-
8	0
9	3.8
10	0
11	3.8
12	4.2
13	2.3
14	5.6
15	4.6
16	9.0
17	5.0
18	0
19	5.0
20	0

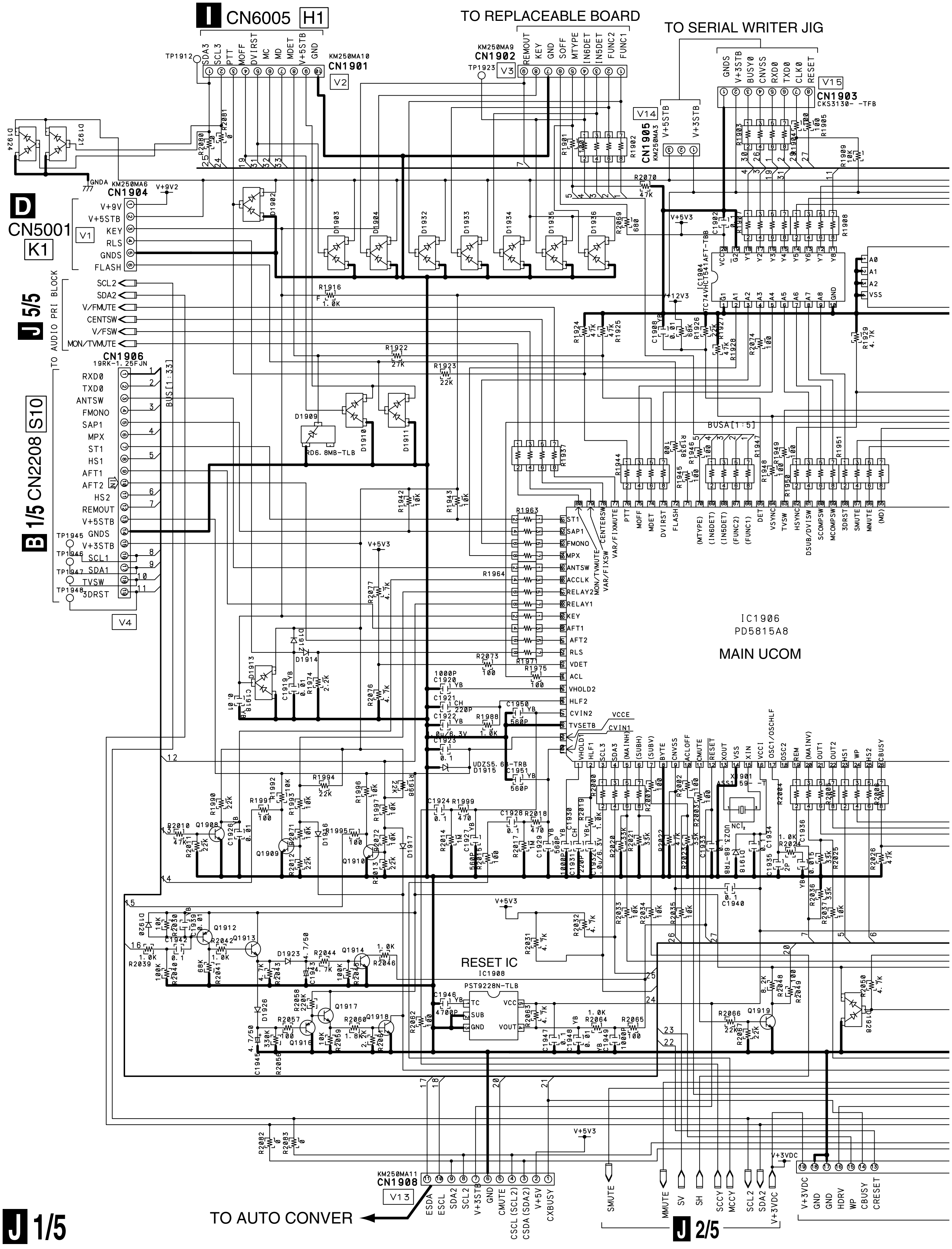
IC1904 (TC74VHCT541AFT)

No	Voltage (V)
1	0
2	0
3	0
4	3.3
5	3.3
6	3.3
7	3.3
8	3.3
9	3.3
10	0
11	5.0
12	5.0
13	5.0
14	5.0
15	5.0
16	5.0
17	0
18	0
19	0
20	5.0

IC1907 (TC74VHCT541AFT)

No	Voltage (V)
1	0
2	0
3	-
4	0
5	0
6	3.3
7	3.3
8	0
9	0
10	0
11	0
12	0
13	5.0
14	5.0
15	0
16	0
17	0
18	0
19	0
20	5.0

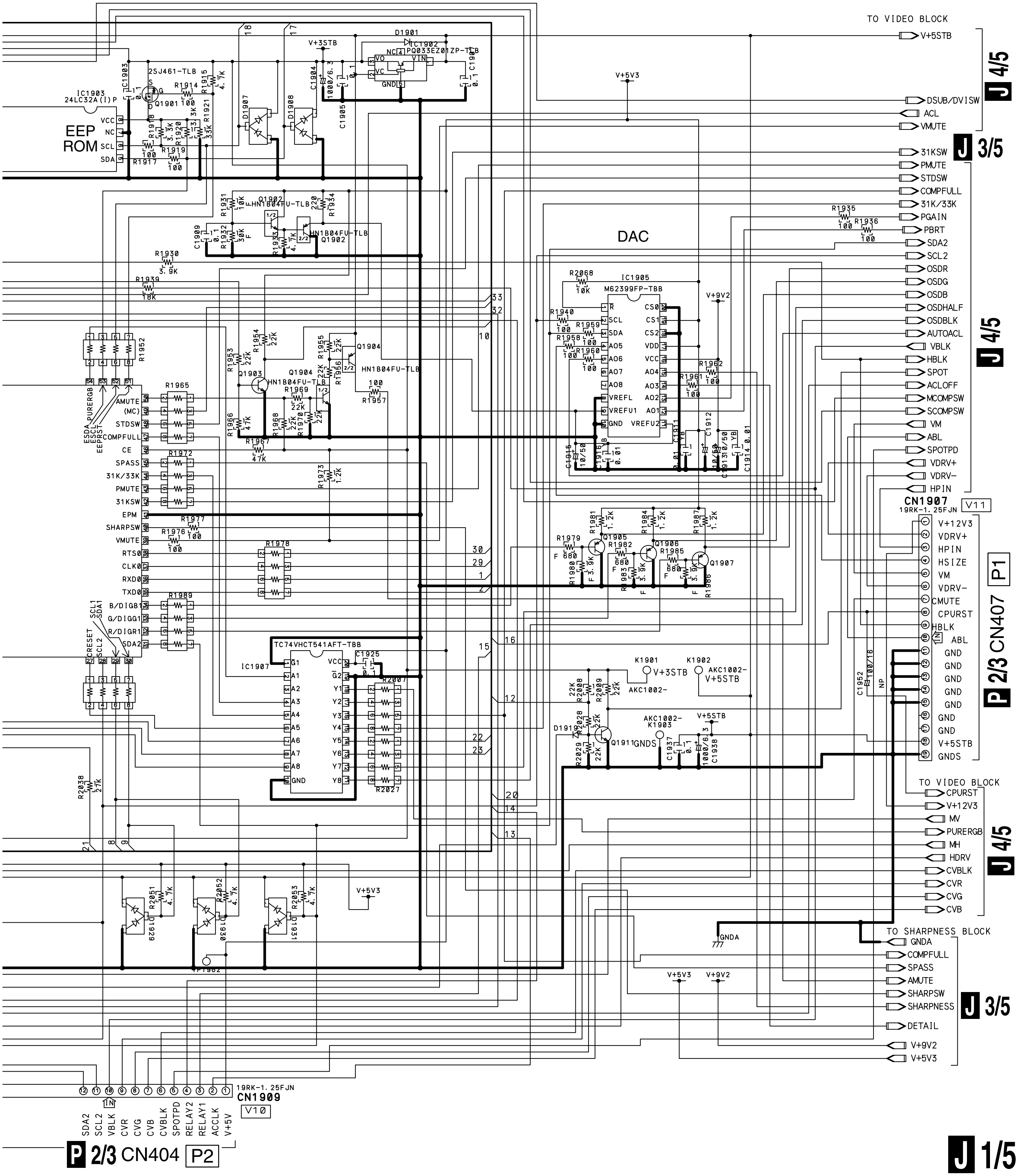
3.12 VIDEO UCOM ASSY (1/5)



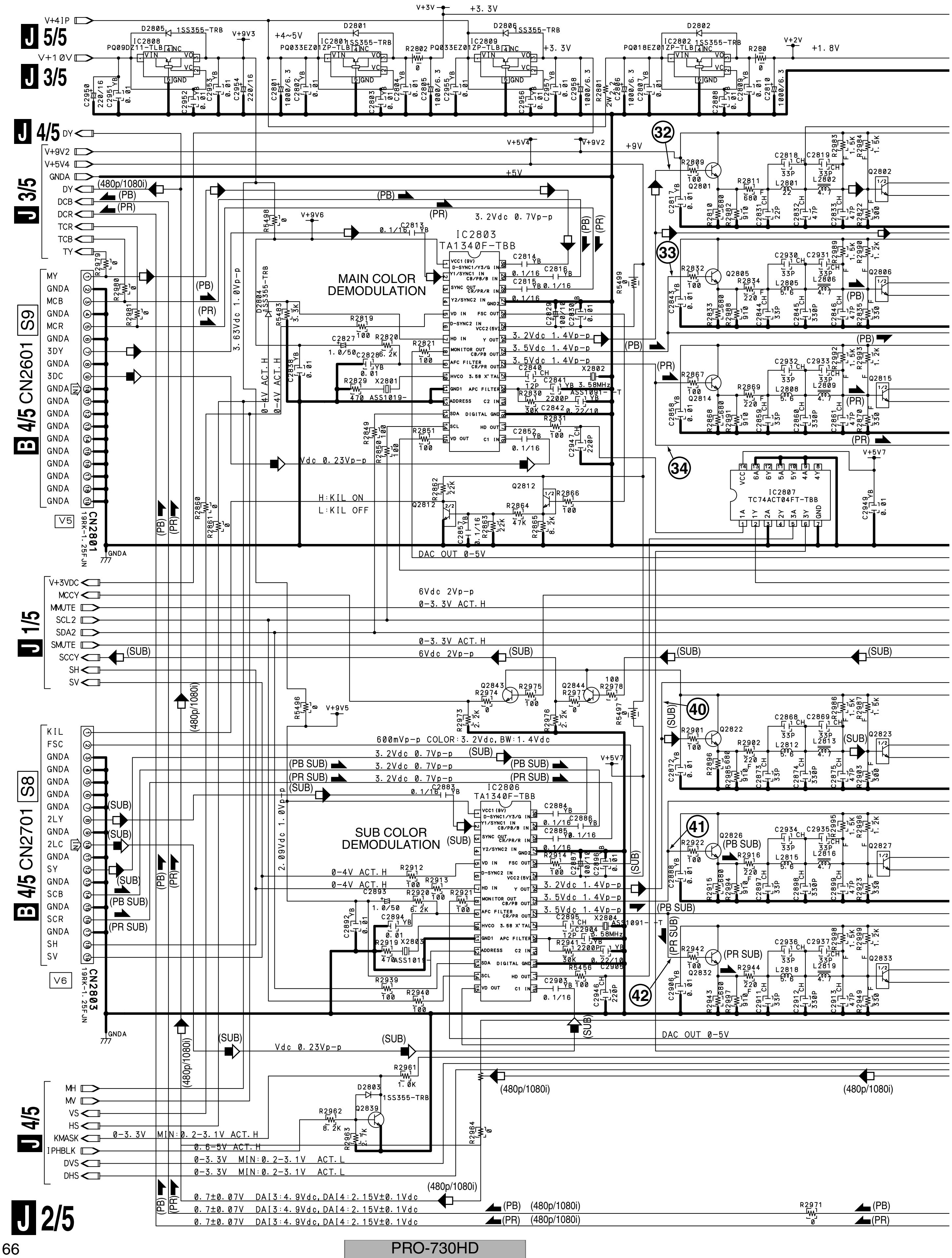
A
B
C
D
E
F
I CN6005 H1
TO REPLACEABLE BOARD
TO SERIAL WRITER JIG
SDA3
SCL3
PTT
MOFF
DVIRST
MC
MD
MDET
V+5STB
GND
KM250MA10
CN1901
V2
TP1912
KM250MA9
CN1902
TP1923
V3
REMOUT
KEY
GND
SOFF
MTYPE
IN6DET
IN5DET
FUNC2
FUNC1
GNDS
V+3STB
BUSY0
CNVSS
RXD0
TXD0
CLK0
RESET
V15
CN1903
CKS3130- -TFB
V14
CN1905
KM250MA3
V+5STB
V+3STB
D1924
D1921
R2080
R2081
GNDA
KM250MA6
CN1904
V+9V2
D
CN5001
K1
V1
V+9V
V+5STB
KEY
RLS
GNDS
FLASH
D1902
D1903
D1904
D1932
D1933
D1934
D1935
D1936
R2070
47K
R2059
680
V+5V3
C1902
IC1904
TC74VHCT541AFT-TBB
R1901
R1902
R1903
R1904
R1905
R1906
R1907
R1908
R1909
10K
A0
A1
A2
VSS
VCC
G2
G1
GND
J 5/5
TO AUDIO PRI BLOCK
SCL2
SDA2
V/FMUTE
CENTSW
V/FSW
MON/TVMUTE
R1916
1.0K
+12V3
R1924
R1925
R1926
R1927
R1928
R1929
4.7K
R2074
100
C1908
R1922
27K
R1923
22K
CN1906
19RK-1.25FJN
BUS[1:33]
RXD0
TXD0
ANTSW
FMONO
SAP1
MPX
ST1
HS1
AFT1
AFT2
HS2
REMOUT
V+5STB
GNDS
V+3STB
SCL1
SDA1
TVSW
3DRST
B 1/5 CN2208 S10
TP1945
TP1946
TP1947
TP1948
V4
D1909
RD6.8MB-TLB
D1910
D1911
BUSA[1:5]
R1937
R1938
R1944
R1945
R1946
R1947
R1948
R1949
R1950
R1951
R1942
10K
R1943
10K
R1963
R1964
PTT
MOFF
MDET
DVIRST
FLASH
(MTYPE)
(IN6DET)
(IN5DET)
(FUNC2)
(FUNC1)
DET
VSYNC
TVSW
HSYNC
DSUB/DVISW
SCOMPSW
MCOMPSW
3DRST
SMUTE
MMUTE
(MD)
CENTERSW
VAR/FIXMUTE
MON/TVMUTE
VAR/FIXSW
ST1
SAP1
FMONO
MPX
ANTSW
ACCLK
RELAY2
RELAY1
KEY
AFT1
AFT2
RLS
VDET
ACL
VHOLD2
HLF2
CVIN2
TVSETB
VCCE
CVIN1
IC1906
PD5815A8
MAIN UCOM
V+5V3
R2077
4.7K
D1912
D1914
D1913
C1918
C1919
R1974
2.2K
R2076
4.7K
R2073
100
R1971
R1975
100
C1920
1000P
C1921
220P
C1922
C1923
R1988
1.0K
C1950
560P
C1951
560P
UDZS5.6B-TRB
D1915
VHOLD1
HLF1
SCL3
SDA3
(MAINH)
(SUBH)
(SUBV)
BYTE
CNVSS
ACLOFF
CMUTE
RESET
XOUT
VSS
XIN
VCC1
OSC1/OSCHLF
OSC2
REM
(MAINV)
OUT1
OUT2
HS1
WP
HS2
CBUSY
X1901
NC
R1990
22K
R1991
R1992
10K
R1993
10K
R1994
22K
R1996
10K
R1997
10K
R1998
22K
R1999
470
R2010
R2011
R2012
R2013
R2014
R2015
R2016
R2017
R2018
R2019
R2020
R2021
R2022
R2023
R2024
R2025
R2026
R2071
R2072
Q1908
Q1909
Q1910
C1924
C1926
C1927
C1928
C1929
C1930
C1931
C1932
C1933
C1934
C1935
C1936
C1940
D1916
D1917
D1918
R1995
R2000
R2001
R2002
R2003
R2004
R2005
R2006
R2007
R2033
R2034
R2035
R2036
R2037
R2032
R2031
4.7K
RESET IC
IC1908
PST9228N-TLB
TC
SUB
GND
VCC
VOUT
C1946
4700P
R2062
100
R2063
4.7K
R2064
1.0K
R2065
100
C1947
C1948
C1949
1000P
D1920
R2030
C1939
Q1912
Q1913
C1942
R2039
R2040
R2041
R2042
R2043
D1923
C1943
R2044
Q1914
R2045
R2046
D1926
R2057
R2058
Q1916
Q1917
R2059
R2060
Q1918
R2061
C1945
R2056
R2048
R2049
R2066
R2067
Q1919
R2050
D1928
R2082
R2083
V+5V3
KM250MA11
CN1908
V13
ESDA
ESCL
SDA2
SCL2
V+3STB
GND
CMUTE
CSCL (SCL2)
CSDA (SDA2)
V+5V
CXBUSY
TO AUTO CONVER
SMUTE
MMUTE
SV
SH
SCCY
MCCY
SCL2
SDA2
V+3VDC
V+3VDC
GND
GND
HDRV
WP
CBUSY
CRESET
J 2/5
J 1/5

J 1/5 VIDEO UCOM SERVICE ASSY (AWV1992)

• UCOM BLOCK


TO VIDEO BLOCK
V+5STB
DSUB/DVISW
ACL
VMUTE
J 4/5
31KSW
J 3/5
PMUTE
STDSW
COMPFULL
31K/33K
PGAIN
PBRT
SDA2
SCL2
OSDR
OSDG
OSDB
OSDHALF
OSDBLK
AUTOACL
VBLK
HBLK
SPOT
ACLOFF
MCOMPSW
SCOMPSW
VM
ABL
SPOTPD
VDRV+
VDRV-
HPIN
J 4/5
CN1907
19RK-1.25FJN
V11
V+12V3
VDRV+
HPIN
HSIZE
VM
VDRV-
CMUTE
CPURST
HBLK
ABL
GND
GND
GND
GND
GND
GND
V+5STB
GNDS
P1
P 2/3 CN407
TO VIDEO BLOCK
CPURST
V+12V3
MV
PURERGB
MH
HDRV
CVBLK
CVR
CVG
CVB
J 4/5
TO SHARPNESS BLOCK
GNDA
COMPFULL
SPASS
AMUTE
SHARPSW
SHARPNESS
DETAIL
V+9V2
V+5V3
J 3/5
IC1903
24LC32A(I)P
EEP ROM
VCC
NC
SCL
SDA
C1903 0.1
2SJ461-TLB
Q1901
R1914 100
R1915 4.7K
R1918 3.3K
R1920 3K
R1921 33K
R1916 100
R1919 100
R1917
D1907
D1908
V+3STB
D1901
IC1902
PQ033EZ01ZP-TLB
NC
VO
VIN
VC
GND
C1904 1000/6.3
C1905 0.1
C1906 0.1
V+5V3
Q1902
HN1B04FU-TLB
R1931 10K
R1932 30K
R1933 4.7K
R1934 220
C1909 0.1
HN1B04FU-TLB
Q1902
R1930 3.9K
R1939 18K
DAC
IC1905
M62399FP-TBB
R2068 10K
R1940 100
R1959 100
R1958 100
R1960 100
R
SCL
SDA
AO5
AO6
AO7
AO8
VREFL
VREFU1
GND
CS0
CS1
CS2
VDD
VCC
AO4
AO3
AO2
AO1
VREFU2
V+9V2
R1962 100
R1961 100
C1915 10/50
C1916 0.01
C1911 0.01
C1912 10/50
C1913 10/50
C1914 0.01
YB
R1952
PURERGB
ESDA
ESCL
EEPRST
AMUTE (MC)
STDSW
COMPFULL
CE
SPASS
31K/33K
PMUTE
31KSW
EPM
SHARPSW
VMUTE
RTS0
CLK0
RXD0
TXD0
B/DIGB1
G/DIGG1
R/DIGR1
SDA2
SCL1
SDA1
CRESET
SCL2
R1965
R1972
R1977 100
R1976 100
R1978
R1989
R1953 22K
R1954 22K
Q1903
HN1B04FU-TLB
Q1904
R1955 22K
R1956 22K
Q1904
HN1B04FU-TLB
R1957 100
R1969 22K
R1970 22K
R1966 47K
R1968 22K
R1967 47K
R1973 1.2K
33
32
10
30
29
1
2
15
16
12
22
23
20
14
13
21
8
9
18
17
R1979 680
R1980 3.9K
Q1905
R1981 1.2K
R1982 680
R1983 3.9K
Q1906
R1984 1.2K
R1985 680
R1986 3.9K
Q1907
R1987 1.2K
K1901
V+3STB
K1902
AKC1002-
V+5STB
AKC1002-
IC1907
TC74VHCT541AFT-TBB
G1
A1
A2
A3
A4
A5
A6
A7
A8
GND
VCC
G2
Y1
Y2
Y3
Y4
Y5
Y6
Y7
Y8
C1925 0.1
R2007
R2027
R2008 22K
R2009 22K
D1911
R2028 22K
Q1911
R2029 22K
AKC1002-
K1903
GNDS
V+5STB
C1937 0.1
C1938 1000/6.3
C1952 100/16
NP
GNDA
R2038 27K
R2051 4.7K
D1929
R2052 4.7K
D1930
R2053 4.7K
D1931
V+5V3
TP1962
V+5V3
V+9V2
R1935 100
R1936 100
19RK-1.25FJN
CN1909
V10
SDA2
SCL2
VBLK
CVR
CVG
CVB
CVBLK
SPOTPD
RELAY2
RELAY1
ACCLK
V+5V
P 2/3 CN404 P2
J 1/5

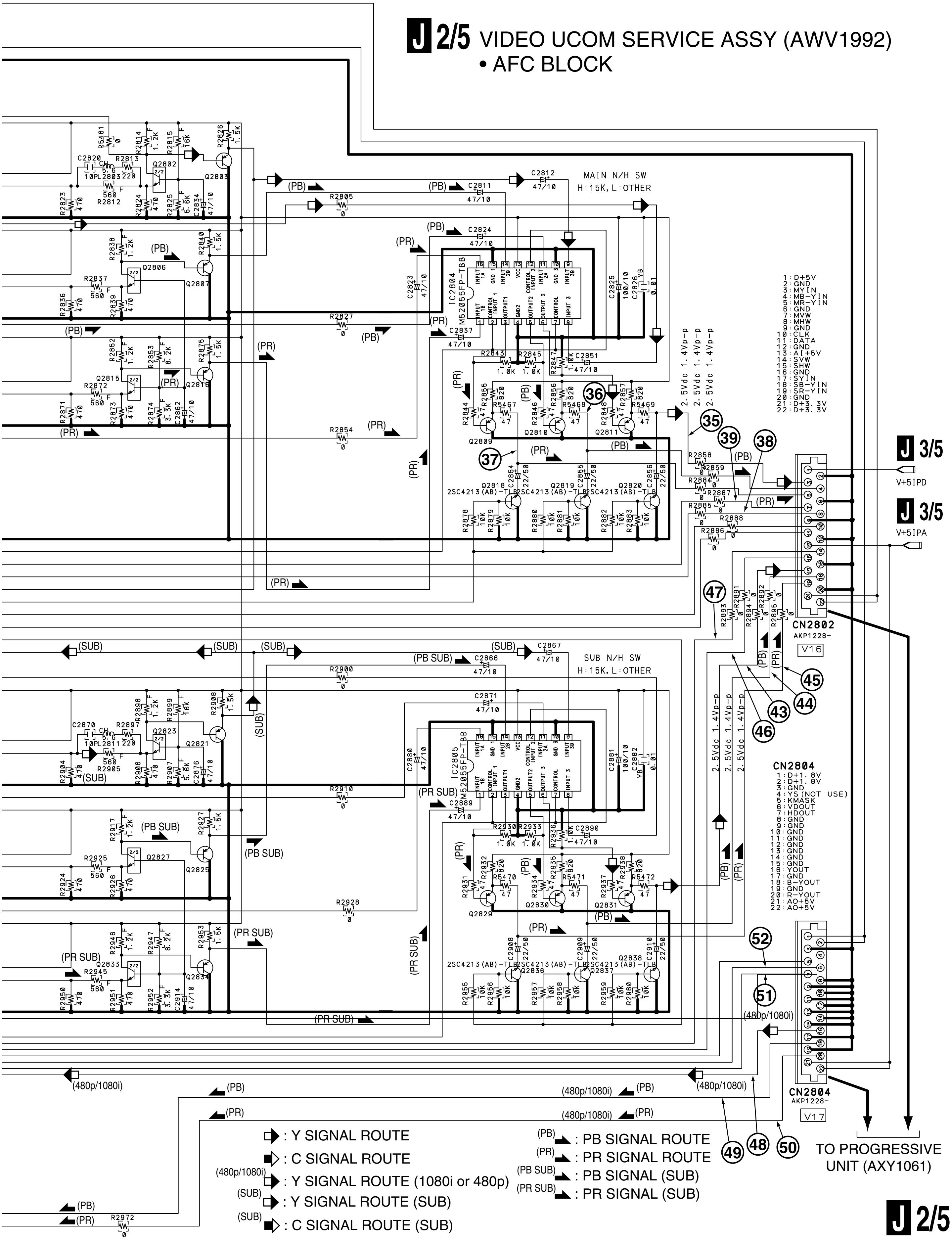
3.13 VIDEO UCOM ASSY (2/5)



J 5/5
V+4IP
V+10V
J 3/5
J 4/5
DY
V+9V2
V+5V4
GNDA
DCB
DCR
TCR
TCB
TY
(480p/1080i)
(PB)
(PR)
IC2808 PQ09DZ11-TLB
D2805 1SS355-TRB
IC2801 PQ033EZ01ZP-TLB
D2801 1SS355-TRB
IC2809 PQ033EZ01ZP-TLB
D2806 1SS355-TRB
IC2802 PQ018EZ01ZP-TLB
D2802 1SS355-TRB
V+9V3
+4~5V
V+3V
+3.3V
V+2V
+1.8V
+9V
+5V
V+9V6
IC2803 TA1340F-TBB
MAIN COLOR DEMODULATION
3.2Vdc 0.7Vp-p
3.63Vdc 1.0Vp-p
0-4V ACT.H
3.2Vdc 1.4Vp-p
3.5Vdc 1.4Vp-p
X2801 ASS1019-
X2802 3.58MHz ASS1091-T
D2804 1SS355-TRB
Vdc 0.23Vp-p
H:KIL ON
L:KIL OFF
Q2812
DAC OUT 0-5V
S9
B 4/5 CN2601
MY
MCB
MCR
3DY
3DC
CN2801 19RK-1.25F-JN
V5
32
33
34
Q2801
Q2802
Q2805
Q2806
Q2814
Q2815
IC2807 TC74ACT04FT-TBB
V+5V7
J 1/5
V+3VDC
MCCY
MMUTE
SCL2
SDA2
SMUTE
SCCY
SH
SV
6Vdc 2Vp-p
0-3.3V ACT.H
(SUB)
Q2843
Q2844
V+9V5
600mVp-p COLOR:3.2Vdc, BW:1.4Vdc
(PB SUB)
(PR SUB)
IC2806 TA1340F-TBB
SUB COLOR DEMODULATION
2.09Vdc 1.0Vp-p
X2803 ASS1019-
X2804 3.58MHz ASS1091-T
S8
B 4/5 CN2701
KIL
FSC
2LY
2LC
SY
SCB
SCR
CN2803 19RK-1.25F-JN
V6
40
41
42
Q2822
Q2823
Q2826
Q2827
Q2832
Q2833
J 4/5
MH
MV
VS
HS
KMASK
IPHBLK
DVS
DHS
0-3.3V MIN:0.2-3.1V ACT.H
0.6-5V ACT.H
0-3.3V MIN:0.2-3.1V ACT.L
D2803 1SS355-TRB
Q2839
J 2/5
0.7±0.07V DAI3:4.9Vdc, DAI4:2.15V±0.1Vdc
GNDA

J 2/5 VIDEO UCOM SERVICE ASSY (AWV1992)

• AFC BLOCK


A
B
C
D
E
F
MAIN N/H SW
H:15K, L:OTHER
SUB N/H SW
H:15K, L:OTHER
IC2804
M52055FP-TBB
IC2805
M52055FP-TBB
INPUT 1A
GND 1
INPUT 2B
VCC
CONTROL INPUT 2
INPUT 2A
GND 3
INPUT 3B
INPUT 1B
CONTROL INPUT 1
OUTPUT1
GND2
OUTPUT2
OUTPUT 3
CONTROL
INPUT 3
Q2802
Q2803
Q2806
Q2807
Q2815
Q2816
Q2809
Q2810
Q2811
Q2818
Q2819
Q2820
2SC4213(AB)-TLB
Q2821
Q2823
Q2825
Q2827
Q2829
Q2830
Q2831
Q2833
Q2834
Q2836
Q2837
Q2838
C2820
C2811
C2812
C2824
C2823
C2825
C2826
C2837
C2851
C2834
C2862
C2854
C2855
C2856
C2870
C2866
C2867
C2871
C2880
C2881
C2882
C2876
C2889
C2890
C2914
C2908
C2909
C2910
2.5Vdc 1.4Vp-p
2.5Vdc 1.4Vp-p
2.5Vdc 1.4Vp-p
35
36
37
38
39
43
44
45
46
47
48
49
50
51
52
(PB)
(PR)
(SUB)
(PB SUB)
(PR SUB)
(480p/1080i)
V+5IPD
V+5IPA
J 3/5
J 3/5
CN2802
AKP1228-
V16
1:D+5V
2:GND
3:MYIN
4:MB-YIN
5:MR-YIN
6:GND
7:MVW
8:MHW
9:GND
10:CLK
11:DATA
12:GND
13:AI+5V
14:SVW
15:SHW
16:GND
17:SYIN
18:SB-YIN
19:SR-YIN
20:GND
21:D+3.3V
22:D+3.3V
CN2804
1:D+1.8V
2:D+1.8V
3:GND
4:YS(NOT USE)
5:KMASK
6:VDOUT
7:HDOUT
8:GND
9:GND
10:GND
11:GND
12:GND
13:GND
14:GND
15:GND
16:YOUT
17:GND
18:B-YOUT
19:GND
20:R-YOUT
21:AO+5V
22:AO+5V
CN2804
AKP1228-
V17
TO PROGRESSIVE
UNIT (AXY1061)
: Y SIGNAL ROUTE
: C SIGNAL ROUTE
(480p/1080i) : Y SIGNAL ROUTE (1080i or 480p)
(SUB) : Y SIGNAL ROUTE (SUB)
(SUB) : C SIGNAL ROUTE (SUB)
(PB) : PB SIGNAL ROUTE
(PR) : PR SIGNAL ROUTE
(PB SUB) : PB SIGNAL (SUB)
(PR SUB) : PR SIGNAL (SUB)

J 2/5

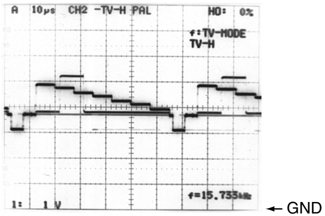
WAVEFORMS and VOLTAGES

Note : The encircled numbers denote measuring point in the schematic diagram.

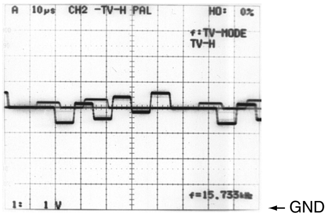
J 2/5 VIDEO UCOM SERVICE ASSY

- **Condition:** Picure Quality : STANDARD
  Range : DC range

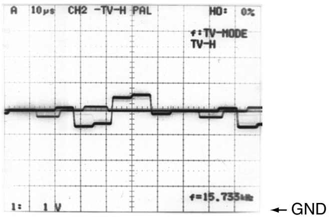
㉜ **Foot of R2809**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



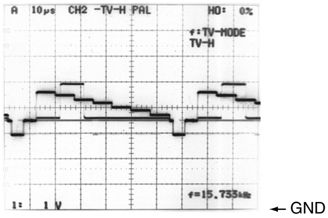
㉝ **Foot of R2832**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



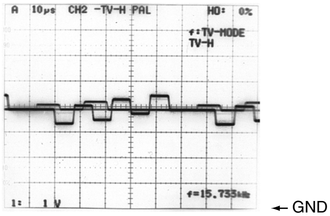
㉞ **Foot of R2867**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



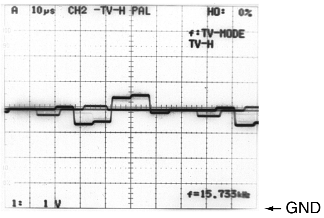
㉟ **C2856 + terminal (MYIN)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



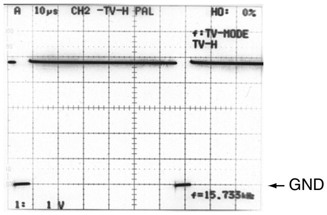
㊱ **C2855 + terminal (MB-YIN)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



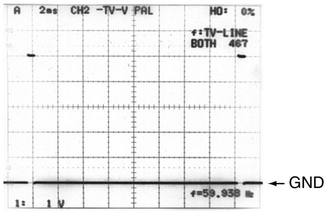
㊲ **C2854 + terminal (MR-YIN)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



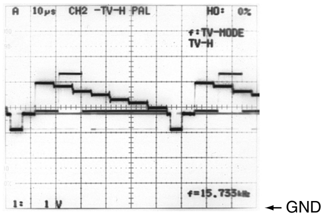
㊳ **Foot of R2888 (MHW)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



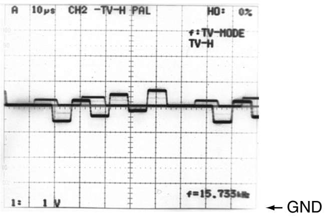
㊴ **Foot of R2887 (MVW)**
V: 1V/div. H: 2msec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



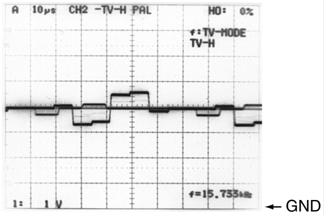
㊵ **Foot of R2901**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



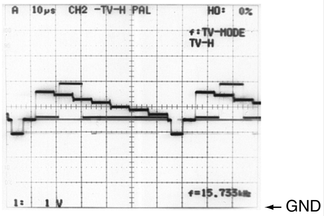
㊶ **Foot of R2922**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



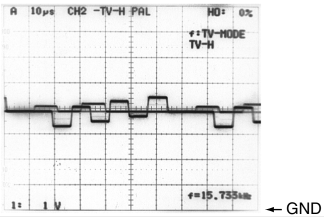
㊷ **Foot of R2942**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



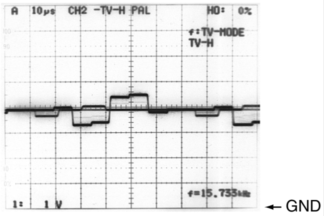
㊸ **C2910 + terminal (SYIN)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



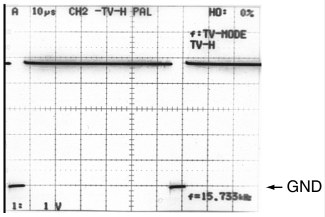
㊹ **C2909 + terminal (SB-YIN)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



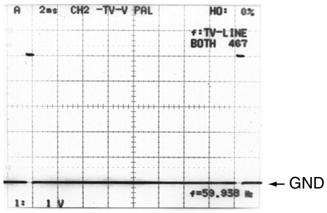
㊺ **C2908 + terminal (SR-YIN)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



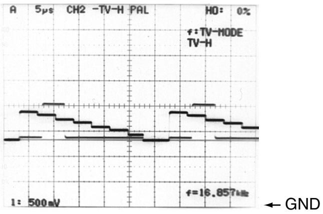
㊻ **Foot of R2891 (SHW)**
V: 1V/div. H: 10µsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



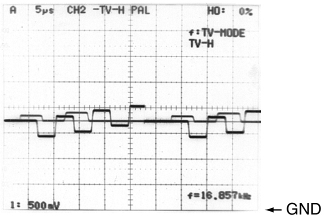
㊼ **Foot of R2893 (SVW)**
V: 1V/div. H: 2msec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



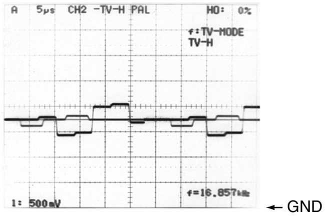
㊽ **Foot of R2964 (DY)**
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



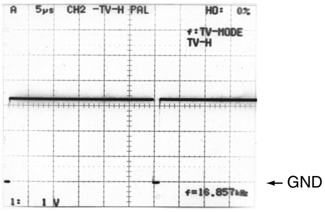
㊾ **Foot of R2971 (DCB)**
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



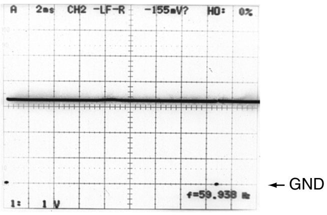
㊿ **Foot of R2972 (DCR)**
V: 0.5V/div. H: 5μsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



(51) **CN2804 - pin 7 (DHS)**
V: 1V/div. H: 5μsec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



(52) **CN2804 - pin 6 (DVS)**
V: 1V/div. H: 2msec/div.
(Input : INPUT1 (COMPOSITE),
EIA color-bar)



- **Input signal**

Input : INPUT 1 (COMPOSITE)
Video Signal : EIA color-bar
Picture Quality : STANDARD

IC2803 (TA1340F)

No	Voltage (V)	No	Voltage (V)
1	9.0	16	2.4
2	2.4	17	0.6
3	-	18	0
4	2.4	19	2.4
5	0	20	2.2
6	2.2	21	3.8
7	0.4	22	3.9
8	5.0	23	4.0
9	6.4	24	4.1
10	5.2	25	5.0
11	0	26	2.9
12	0	27	0
13	0 to 5	28	2.2
14	0 to 5	29	2.2
15	0.2	30	1.9

IC2804 (M52055FP)

No	Voltage (V)
1	4.7
2	5.0
3	3.2
4	0
5	3.2
6	3.2
7	5.0
8	4.7
9	4.7
10	0
11	4.7
12	5.0
13	9.0
14	4.7
15	0
16	4.7

IC2807 (TC74ACT04FT)

No	Voltage (V)
1	0 to 5
2	0 to 5
3	0
4	4.7
5	0 to 5
6	0 to 5
7	0
8	4.7
9	0
10	4.7
11	0
12	4.7
13	0
14	4.7

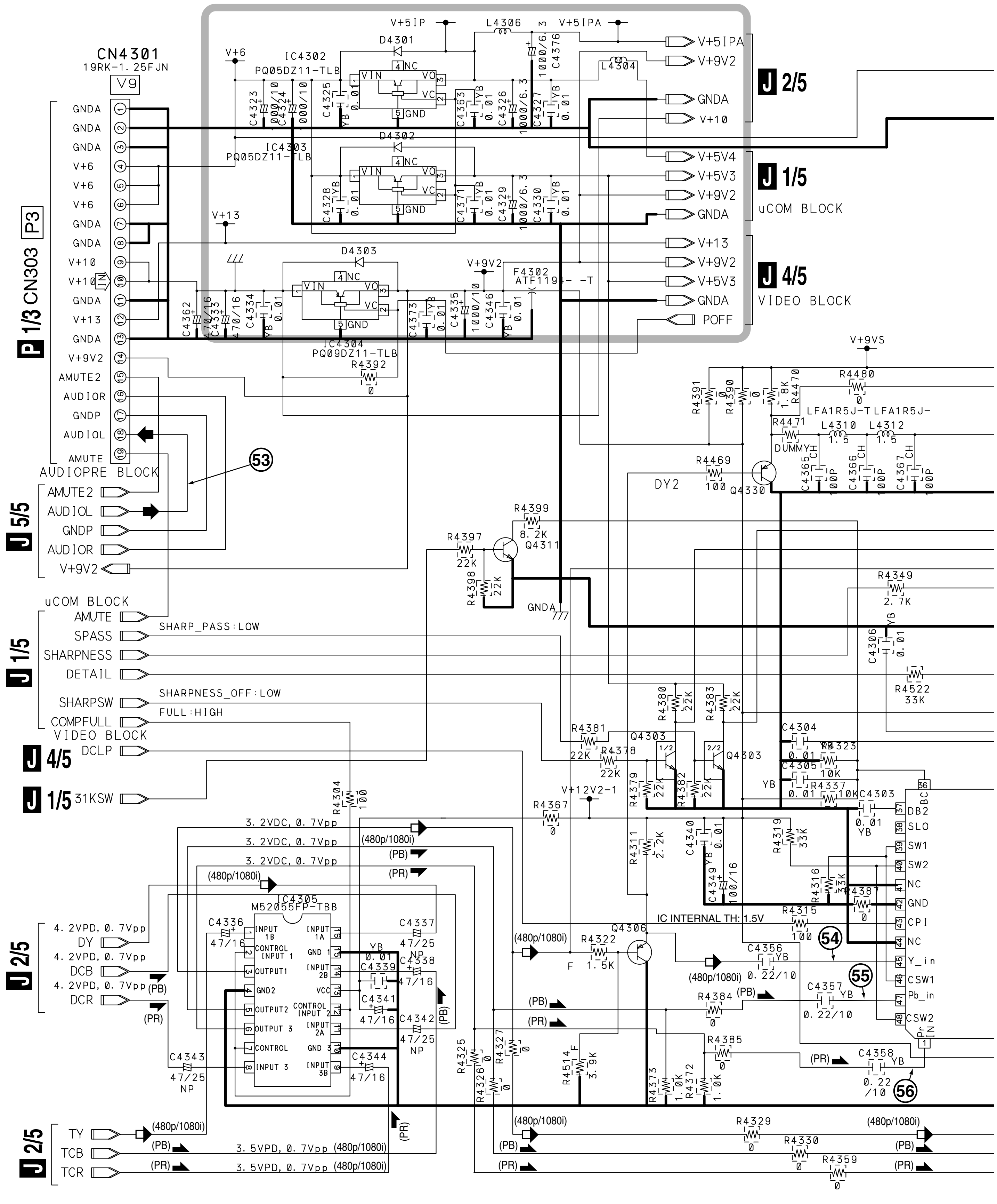
IC2806 (TA1340F)

No	Voltage (V)	No	Voltage (V)
1	9.0	16	2.4
2	2.4	17	0.6
3	-	18	0
4	2.4	19	2.4
5	0.0	20	2.2
6	2.3	21	3.8
7	0.0	22	3.9
8	5.0	23	4.0
9	6.4	24	4.1
10	5.2	25	5.0
11	0	26	2.9
12	9.0	27	0
13	0 to 5	28	2.2
14	0 to 5	29	2.2
15	0.2	30	1.9

IC2805 (M52055FP)

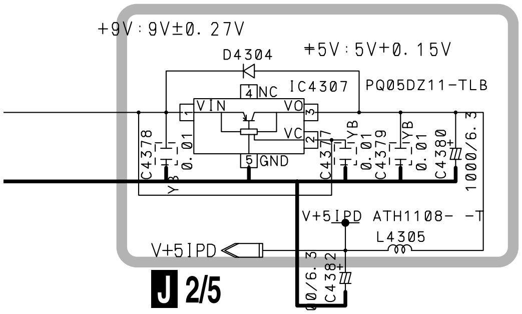
No	Voltage (V)
1	4.7
2	5.0
3	3.2
4	0
5	3.2
6	3.2
7	5.0
8	4.7
9	4.7
10	0
11	4.7
12	5.0
13	9.0
14	4.7
15	0
16	4.7

3.14 VIDEO UCOM ASSY (3/5)



CN4301
19RK-1.25FJN
V9
GNDA
GNDA
GNDA
V+6
V+6
V+6
GNDA
GNDA
V+10
V+10
GNDA
V+13
GNDA
V+9V2
AMUTE2
AUDIOR
GNDP
AUDIOL
AMUTE
P 1/3 CN303 P3
IN
V+6
IC4302
PQ05DZ11-TLB
IC4303
PQ05DZ11-TLB
IC4304
PQ09DZ11-TLB
D4301
D4302
D4303
V+5IP
L4306
V+5IPA
L4304
V+13
V+9V2
F4302
ATF1192- -T
R4392
0
C4323
C4324
C4325
C4363
C4326
C4327
C4376
C4328
C4371
C4329
C4330
C4362
C4333
C4334
C4373
C4335
C4346
1000/10
1000/6.3
470/16
0.01
YB
VIN
VO
VC
NC
GND
V+5IPA
V+9V2
GNDA
V+10
J 2/5
V+5V4
V+5V3
V+9V2
GNDA
J 1/5
uCOM BLOCK
V+13
V+9V2
V+5V3
GNDA
POFF
J 4/5
VIDEO BLOCK
AUDIOPRE BLOCK
53
AMUTE2
AUDIOL
GNDP
AUDIOR
V+9V2
J 5/5
uCOM BLOCK
AMUTE
SPASS
SHARPNESS
DETAIL
SHARPSW
COMPFULL
SHARP_PASS:LOW
SHARPNESS_OFF:LOW
FULL:HIGH
J 1/5
VIDEO BLOCK
DCLP
J 4/5
J 1/5
31KSW
V+9VS
R4391
R4390
R4470
1.8K
R4480
0
LFA1R5J-T LFA1R5J-
R4471
DUMMY
L4310
L4312
1.5
R4469
100
Q4330
DY2
C4365
C4366
C4367
100P
CH
R4399
8.2K
R4397
22K
Q4311
R4398
22K
GNDA
R4349
2.7K
C4306
R4522
33K
R4380
R4383
R4381
R4378
Q4303
1/2
2/2
R4379
R4382
C4304
C4305
R4323
10K
R4337
C4303
YB
V+12V2-1
R4367
0
R4304
100
3.2VDC, 0.7Vpp
(480p/1080i)
(PB)
(PR)
R4311
2.2K
C4340
C4349
100/16
R4319
33K
R4316
33K
R4387
R4315
100
IC INTERNAL TH: 1.5V
54
55
56
56
SBC
DB2
SLO
SW1
SW2
NC
GND
CPI
NC
Y_in
CSW1
Pb_in
CSW2
Pr_IN
37
38
39
40
41
42
43
44
45
46
47
48
1
Q4306
R4322
1.5K
F
C4356
0.22/10
C4357
R4384
R4385
C4358
0.22/10
IC4305
M52055FP-TBB
INPUT 1B
CONTROL INPUT 1
OUTPUT1
GND2
OUTPUT2
OUTPUT 3
CONTROL
INPUT 3
INPUT 1A
GND 1
INPUT 2B
VCC
CONTROL INPUT 2
INPUT 2A
GND 3
INPUT 3B
C4336
47/16
C4337
47/25
NP
C4338
C4339
C4341
C4342
C4343
C4344
4.2VPD, 0.7Vpp
DY
DCB
DCR
J 2/5
R4325
R4326
R4327
R4514
3.9K
R4373
R4372
1.0K
TY
TCB
TCR
J 2/5
3.5VPD, 0.7Vpp
R4329
R4330
R4359

J 3/5 VIDEO UCOM SERVICE ASSY (AWV1992)
• SHARPNESS BLOCK



+9V : 9V±0.27V
+5V : 5V+0.15V
D4304
IC4307
PQ05DZ11-TLB
VIN
VO
VC
NC
GND
C4378 0.01 YB
C4377
C4379 0.01 YB
C4380 1000/6.3
V+5IPD
ATH1108- -T
L4305
C4382 1000/6.3
J 2/5

M52055

	INPUT	OUTPUT	GAIN
MIN	4.1V	3.05V	-0.6
TYP	4.6V	3.2V	-0.1
MAX	5.1V	3.35V	+0.4

AN5395

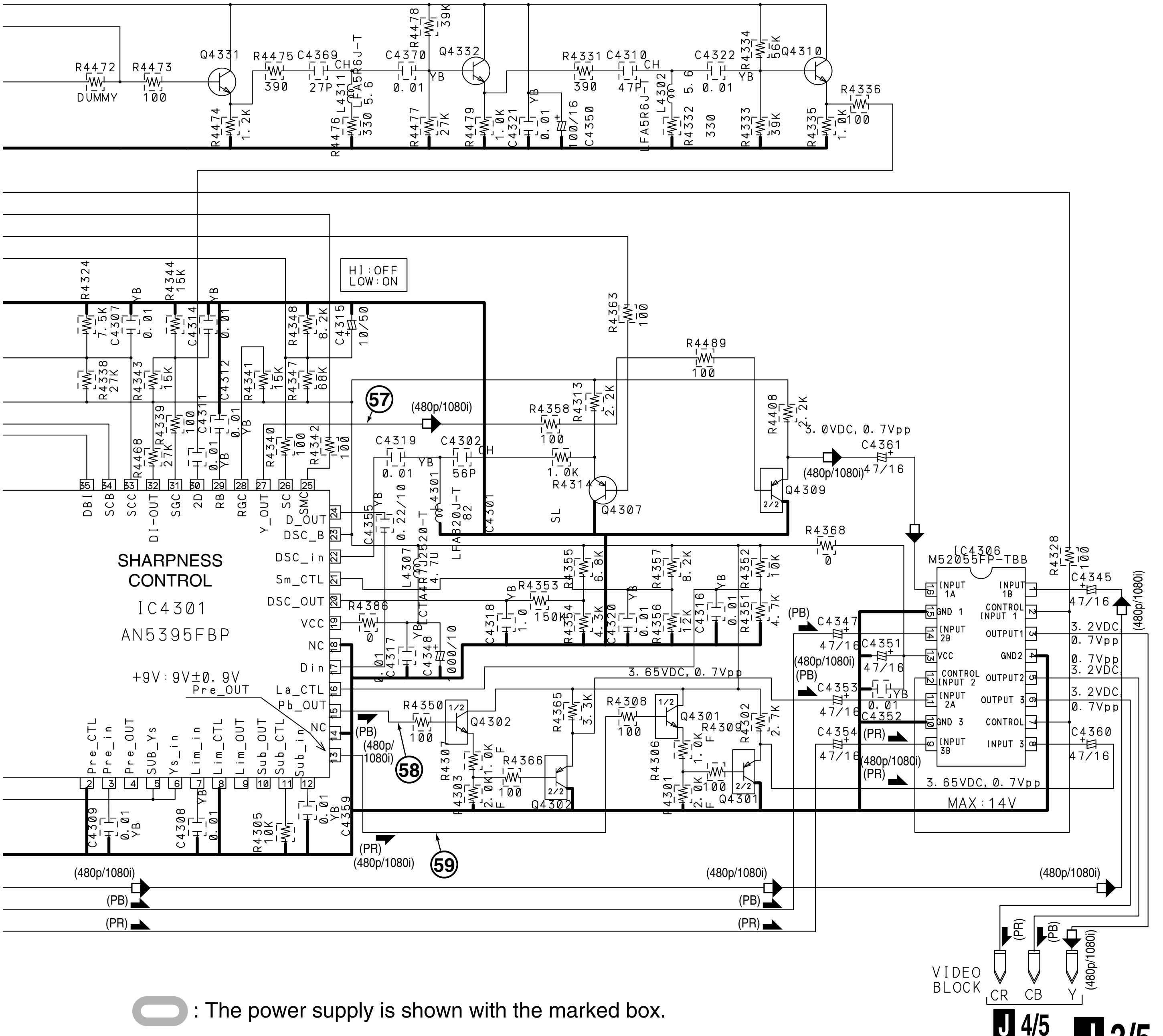
		INPUT	OUTPUT	GAIN
MIN	Y	4.5V	2.4V	1.81
	CbCr	4.5V	3.8V	1.81
TYP	Y	5.63V	3.0V	2.92
	CbCr	5.63V	4.75V	2.92
MAX	Y	6.76V	3.6V	3.91
	CbCr	6.76V	5.7V	3.91

(480p/1080i) ⇨ : Y SIGNAL ROUTE (1080i or 480p)

➡ : AUDIO SIGNAL ROUTE

(PB) ◢ : PB SIGNAL ROUTE

(PR) ◢ : PR SIGNAL ROUTE



R4472 DUMMY
R4473 100
Q4331
R4474 1.2K
R4475 390
C4369 27P CH
L4311 LFA5R6J-T 5.6
R4476 330
R4478 39K
C4370 0.01
R4477 27K
Q4332
R4479 1.0K
C4321 0.01 YB
C4350 100/16
R4331 390
C4310 47P CH
L4302 LFA5R6J-T 5.6
R4332 330
C4322 0.01 YB
R4334 56K
R4333 39K
Q4310
R4335 1.0K
R4336 100
HI : OFF
LOW : ON
R4324 7.5K
C4307 0.01 YB
R4344 15K
C4314 0.01 YB
R4348 8.2K
C4315 10/50
R4338 27K
R4343 15K
C4312
R4341 15K
R4347 68K
R4468
R4339 27K
C4311 100 0.01 YB
R4340 100
R4342 100
57
(480p/1080i)
R4358 100
R4313 2.2K
R4363 100
R4489 100
R4408 2.2K
3.0VDC, 0.7Vpp
C4361 47/16
C4319 0.01 YB
C4302 56P CH
R4314 1.0K
Q4307
SL
Q4309
DBI SCB SCC DI-OUT SGC 2D RB RGC Y_OUT SC
D_SMC D_OUT DSC_B DSC_in Sm_CTL DSC_OUT VCC NC Din La_CTL Pb_OUT NC
SHARPNESS CONTROL
IC4301
AN5395FBP
+9V : 9V±0.9V
Pre_OUT
Pre_CTL Pre_in Pre_OUT SUB_Ys Ys_in Lim_in Lim_CTL Lim_OUT Sub_OUT Sub_CTL Sub_in
C4355 0.22/10
L4301 LFA820J-T 82
L4307 CTA4R7J2520-T 4.7U
C4301
R4386 0
C4317 0.01 YB
C4348 1000/10
C4318 1.0
R4353 150K
R4355 6.8K
R4354 4.3K
C4320 0.01 YB
R4357 8.2K
R4356 12K
C4316 0.01 YB
R4352 10K
R4351 4.7K
R4368 0
3.65VDC, 0.7Vpp
R4350 100
Q4302
R4365 3.3K
R4307 1.0K
R4303 2.0K
R4366 100
R4308 100
Q4301
R4309 1.0K
R4306
R4301 2.0K
R4302 2.7K
(PB)
(480p/1080i)
58
59
(PR)
C4309 0.01 YB
C4308 0.01 YB
R4305 10K
C4359 0.01 YB
IC4306
M52055FP-TBB
INPUT 1A
GND 1
INPUT 2B
VCC
CONTROL INPUT 2
INPUT 2A
GND 3
INPUT 3B
INPUT 1B
CONTROL INPUT 1
OUTPUT1
GND2
OUTPUT2
OUTPUT 3
CONTROL
INPUT 3
C4347 47/16
C4351 47/16
C4353 47/16
C4352 0.01 YB
C4354 47/16
R4328 100
C4345 47/16
3.2VDC, 0.7Vpp
3.2VDC, 0.7Vpp
3.2VDC, 0.7Vpp
C4360 47/16
3.65VDC, 0.7Vpp
MAX : 14V
VIDEO BLOCK
CR CB Y
J 4/5

⬭ : The power supply is shown with the marked box.

J 3/5

WAVEFORMS and VOLTAGES

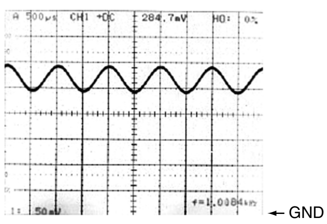
Note : The encircled numbers denote measuring point in the schematic diagram.

J 3/5 VIDEO UCOM SERVICE ASSY

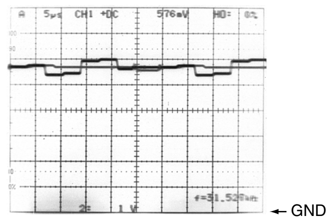
- **Input signal**

Input : INPUT 1 (COMPOSITE)
Video Signal : EIA color-bar

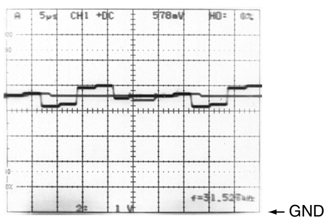
(53) CN4301 - pin 18 (AUDIOL)
V: 0.5V/div. H: 500µsec/div.



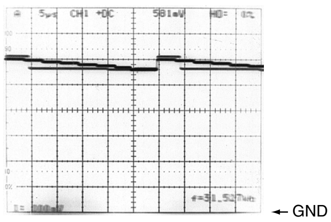
(56) IC4301 - pin 1 (Sharpness Pr in)
V: 1V/div. H: 5µsec/div.



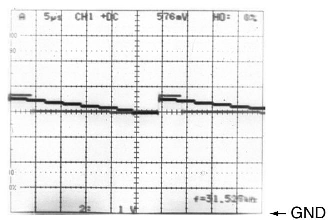
(59) IC4301 - pin 13 (Sharpness Pr out)
V: 1V/div. H: 5µsec/div.



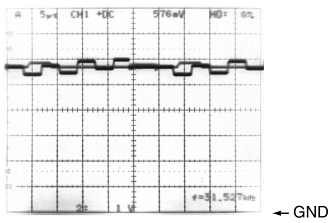
(54) IC4301 - pin 45 (Sharpness Y in)
V: 1V/div. H: 5µsec/div.



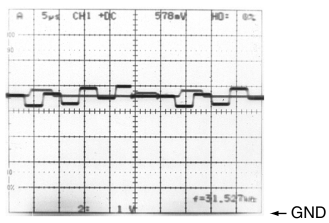
(57) IC4301 - pin 27 (Sharpness Y out)
V: 1V/div. H: 5µsec/div.



(55) IC4301 - pin 47 (Sharpness Pb in)
V: 1V/div. H: 5µsec/div.



(58) IC4301 - pin 15 (Sharpness Pb out)
V: 1V/div. H: 5µsec/div.



IC4305 (M52055FP)

No	Voltage (V)
1	4.7
2	-
3	3.2
4	0
5	3.2
6	3.2
7	-
8	4.7
9	4.7
10	0
11	4.7
12	-
13	9.1
14	4.7
15	0
16	4.7

IC4301 (AN5395FBP)

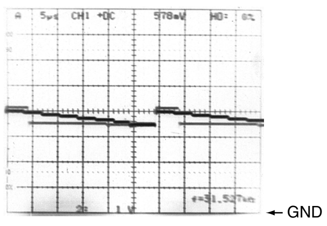
No	Voltage (V)	No	Voltage (V)	No	Voltage (V)
1	5.6	17	5.6	33	2.9
2	0	18	0	34	5.3
3	2.6	19	8.9	35	3.6
4	-	20	4.1	36	2.8
5	9.0	21	5.2	37	3.6
6	9.0	22	2.7	38	-
7	2.6	23	9.0	39	0
8	0	24	4.7	40	4.0
9	-	25	0	41	0
10	-	26	3.6	42	0
11	0	27	4.1	43	0/5
12	2.6	28	6.3	44	0
13	4.6	29	3.6	45	5.6
14	0	30	2.5	46	0
15	4.6	31	3.8	47	5.6
16	3.1	32	2.7	48	4.0

IC4306 (M52055FP)

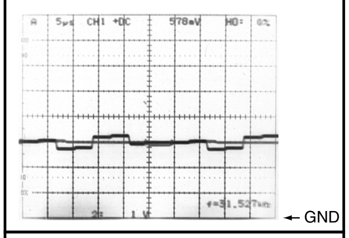
No	Voltage (V)
1	4.7
2	-
3	3.2
4	0
5	3.2
6	3.2
7	-
8	4.7
9	4.7
10	0
11	4.7
12	-
13	9.1
14	4.7
15	0
16	4.7

J 4/5 VIDEO UCOM ASSY

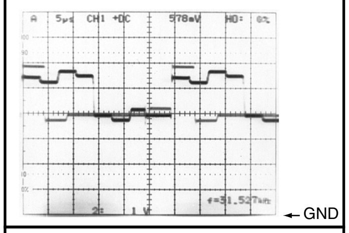
(60) IC4608 - pin 51 (Jungle input Y)
V: 1V/div. H: 5µsec/div.



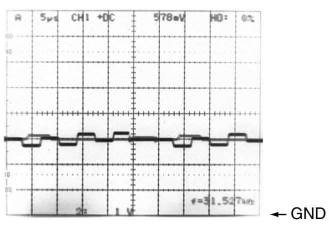
(62) IC4608 - pin 53 (Jungle input Pr)
V: 1V/div. H: 5µsec/div.



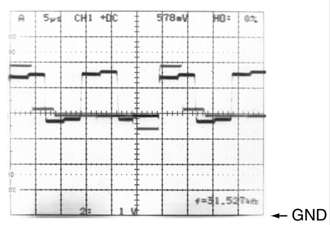
(64) IC4608 - pin 32 (Jungle output G)
V: 1V/div. H: 5µsec/div.



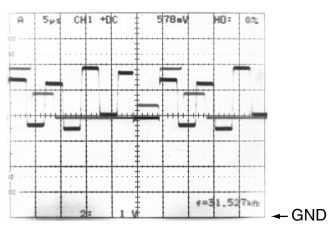
(61) IC4608 - pin 52 (Jungle input Pb)
V: 1V/div. H: 5µsec/div.



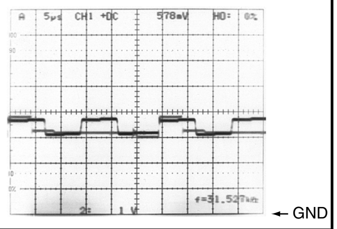
(63) IC4608 - pin 34 (Jungle output R)
V: 1V/div. H: 5µsec/div.



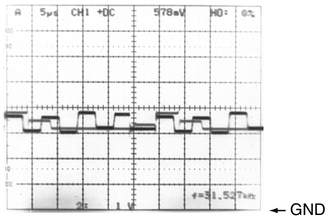
(65) IC4608 - pin 30 (Jungle output B)
V: 1V/div. H: 5µsec/div.



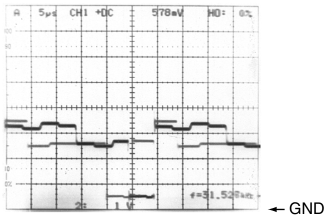
66 **IC4606 - pin 1 (Pre-amp input R)**
V: 1V/div. H: 5µsec/div.



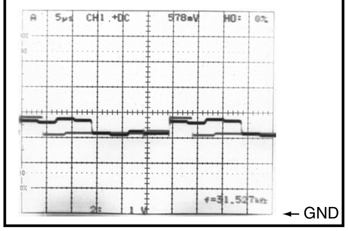
68 **IC4606 - pin 6 (Pre-amp input B)**
V: 1V/div. H: 5µsec/div.



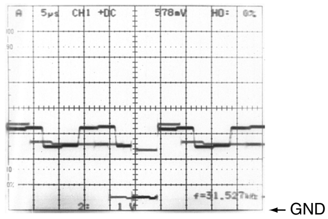
70 **IC4606 - pin 27 (Pre-amp output G)**
V: 1V/div. H: 5µsec/div.



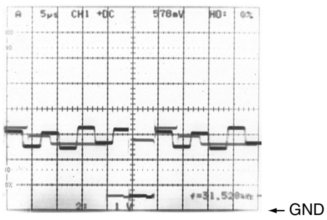
67 **IC4606 - pin 3 (Pre-amp input G)**
V: 1V/div. H: 5µsec/div.



69 **IC4606 - pin 29 (Pre-amp output R)**
V: 1V/div. H: 5µsec/div.



71 **IC4606 - pin 25 (Pre-amp output B)**
V: 1V/div. H: 5µsec/div.



IC4608 (CXA2180Q)

No	Voltage (V)	No	Voltage (V)
1	3.4	33	5.0
2	4.9	34	4.4
3	2.9	35	0
4	4.0	36	0
5	-	37	3.3
6	0	38	3.3
7	0/5	39	3.3
8	5.0	40	0
9	1.3	41	3.3
10	3.0	42	3.3
11	-	43	3.3
12	0	44	0
13	2.9	45	1.1
14	0.6/5.6	46	2.6
15	0	47	2.7
16	1.3/5	48	0
17	0	49	2.4
18	0/5	50	5.0
19	0/5	51	3.6
20	2.0	52	3.0
21	4.9	53	3.0
22	0/5	54	0
23	0/5	55	3.5
24	0	56	3.5
25	5.0	57	3.5
26	4.9	58	0
27	2.8	59	0/5
28	9.0	60	0/5
29	5.0	61	9.0
30	4.4	62	4.4
31	5.0	63	5.7
32	4.4	64	3.5

IC4601 (M52055FP)

No	Voltage (V)
1	4.7
2	-
3	3.2
4	0
5	3.2
6	3.2
7	-
8	4.7
9	4.7
10	0
11	4.7
12	-
13	9.1
14	4.7
15	0
16	4.7

IC4606 (CXA2153S)

No	Voltage (V)	No	Voltage (V)
1	3.3	16	0/5
2	4.9	17	0/5
3	3.3	18	3.1
4	2.9	19	3.5
5	3.3	20	3.5
6	0	21	3.5
7	4.0	22	12.0
8	0	23	9.0
9	0	24	0
10	0	25	2.3
11	0	26	0
12	-	27	2.3
13	0/5	28	0
14	0/5	29	2.3
15	-	30	12.0

IC4610 (TC74HC126AF)

No	Voltage (V)
1	5.0
2	0/5
3	0/5
4	0
5	0.9
6	0/5
7	0
8	0/5
9	0
10	0
11	0/5
12	0/5
13	5.0
14	5.0

IC4611 (NJM319M)

No	Voltage (V)
1	-
2	-
3	0
4	0/5
5	3.7
6	0
7	0/5
8	0
9	0/5
10	1.4
11	9.1
12	0/5
13	-
14	-

IC4602 (TC74HC4053AF)

No	Voltage (V)
1	0.7
2	0.7
3	0.7
4	0.7
5	0.7
6	0
7	0
8	0
9	0
10	0
11	0
12	0.7
13	0.7
14	0.7
15	0.7
16	5.0

IC4603 (TC7W53FU)

No	Voltage (V)
1	1.5
2	0
3	0
4	0
5	0.7/5.7
6	1.2
7	1.6
8	5.0

IC4604 (BA7655AF)

No	Voltage (V)
1	2.8
2	3.2
3	2.2
4	0
5	2.2
6	3.2
7	2.8
8	5.0

IC4609 (AD8057ART)

No	Voltage (V)
1	2.4
2	0
3	2.3
4	2.4
5	12.0

IC4612 (TC7SB66FU)

No	Voltage (V)
1	2.4
2	1.9
3	0
4	0
5	5.0

IC4613 (TC7SB66FU)

No	Voltage (V)
1	2.4
2	1.9
3	0
4	0
5	5.0

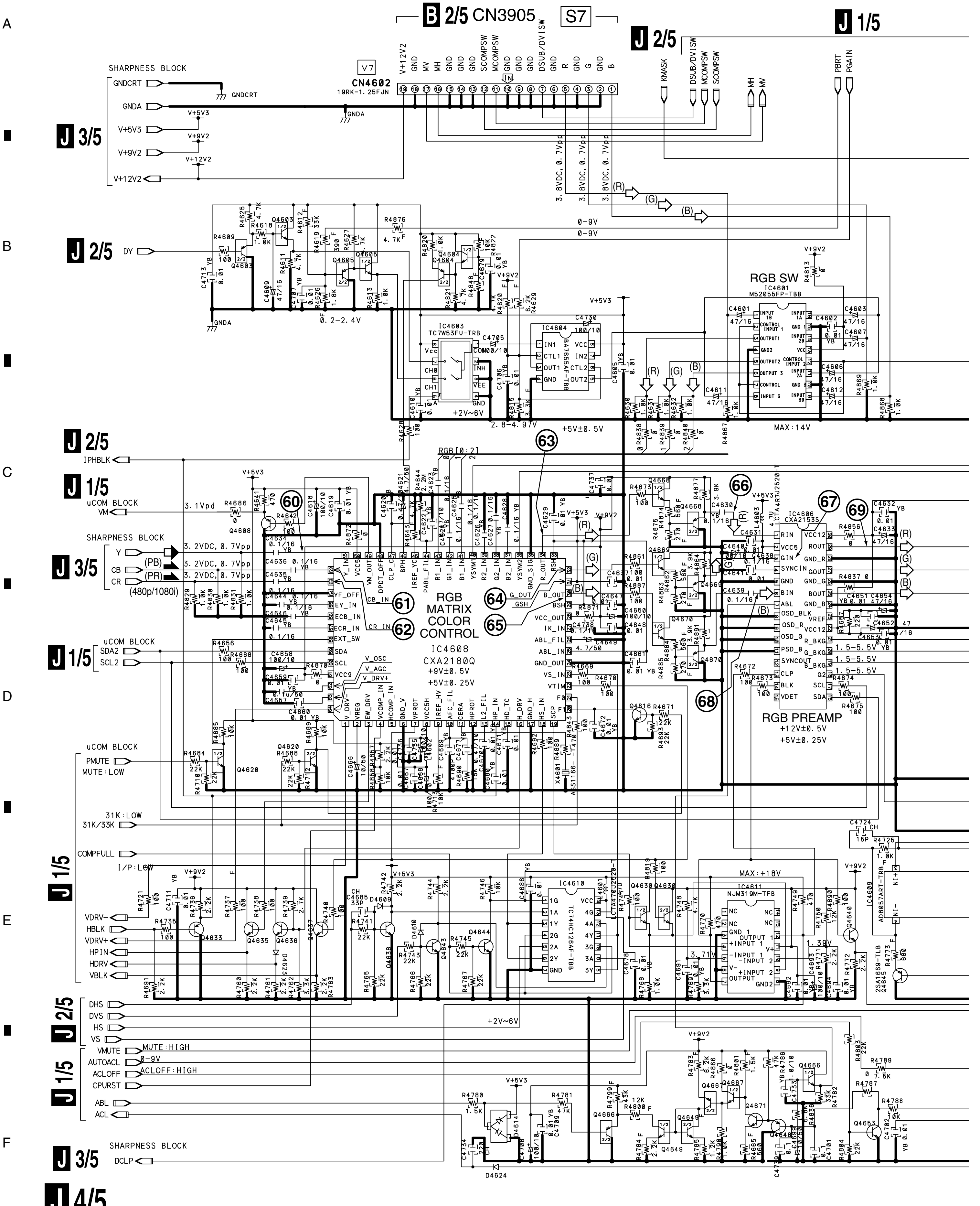
IC4614 (TC7SB66FU)

No	Voltage (V)
1	2.4
2	1.9
3	0
4	0
5	5.0

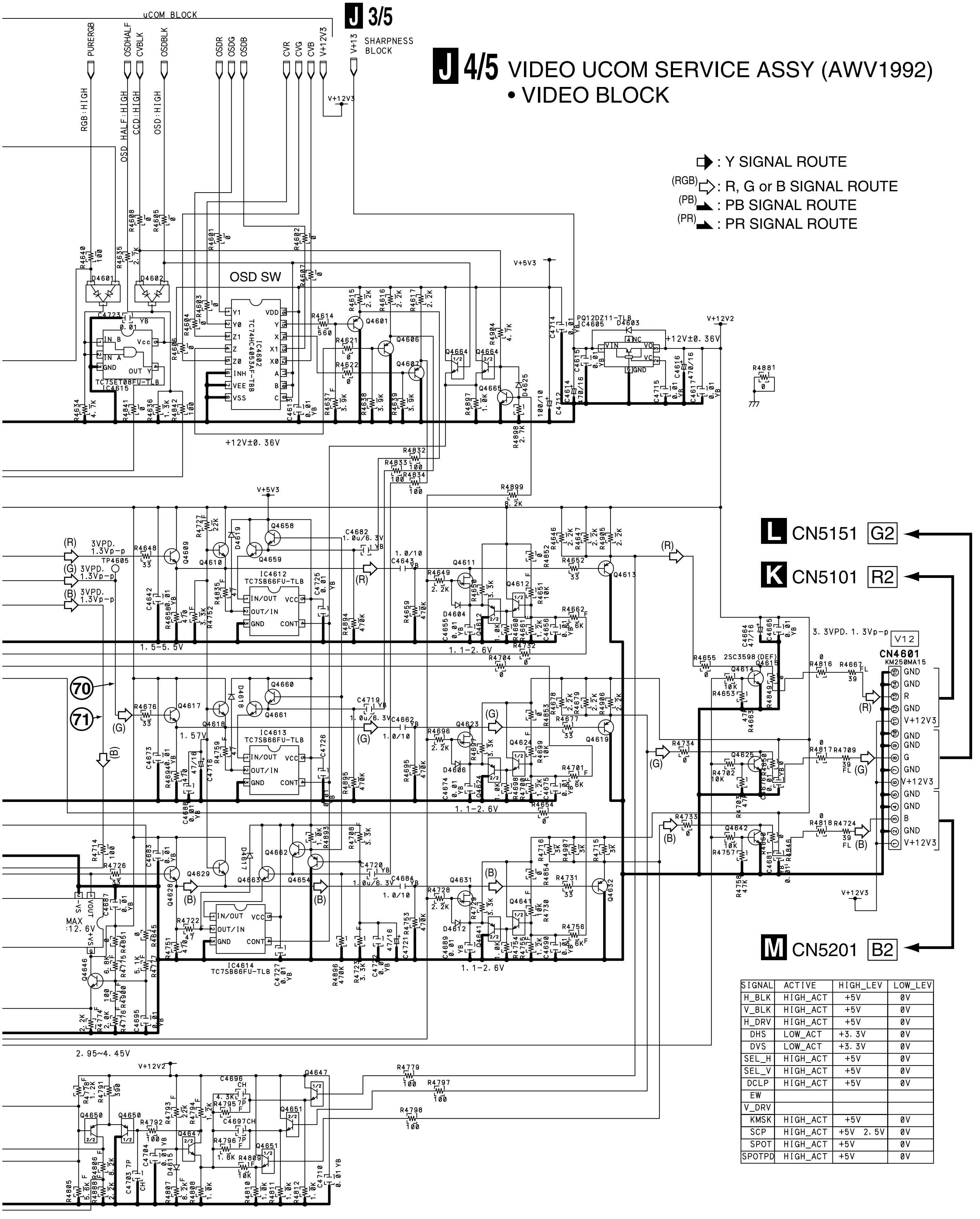
IC4615 (TC7SET08FU)

No	Voltage (V)
1	0
2	0
3	0
4	0
5	5.0

3.15 VIDEO UCOM ASSY (4/5)


B 2/5 CN3905
S7
J 1/5
J 2/5
SHARPNESS BLOCK
GNDCRT
GNDA
V+5V3
V+9V2
V+12V2
J 3/5
V7
CN4602
19RK-1.25FJN
V+12V2 GND MV MH GND GND GND SCOMPSW MCOMPSW GND GND GND DSUB/DVISW GND R GND G GND B
KMASK DSUB/DVISW MCOMPSW SCOMPSW
MH MV
PBRT PGAIN
3.8VDC, 0.7Vpp
(R) (G) (B)
0-9V
J 2/5
DY
R4609 Q4603 R4625 R4618 R4611 R4626 R4613 R4619 Q4605 R4627 R4876 R4820 Q4604 R4821 R4848 C4679 R4872 R4620 R4629
C4713 C4609 C4707
GNDA
0.2-2.4V
IC4603 TC7W53FU-TRB
Vcc CH0 CH1 COM INH VEE GND
C4705
+2V~6V
2.8-4.97V
IC4604 BA7655AF-T8B
IN1 CTL1 OUT1 GND VCC IN2 CTL2 OUT2
C4730
+5V±0.5V
RGB SW
IC4601 M52055FP-TBB
C4601 C4602 C4603 C4607 C4606 C4611 C4612
MAX:14V
R4813 R4869 R4868 R4867
J 2/5
IPHBLK
J 1/5
uCOM BLOCK
VM
3.1Vpd
R4686 Q4608 R4641 R4642
60
SHARPNESS BLOCK
Y CB CR
(PB) (PR)
3.2VDC,0.7Vpp
(480p/1080i)
J 3/5
RGB[0:2]
63
61
62
64
65
RGB MATRIX COLOR CONTROL
IC4608
CXA2180Q
+9V±0.5V
+5V±0.25V
V_IN VCC5 VM_OUT DPDT_OFF CLP_C BPH IREF_YC PABL_FIL R1_IN G1_IN B1_IN YSYM1 R2_IN G2_IN B2_IN YSYM2 R_OUT GND_SIG RSH
YF_OFF EY_IN ECB_IN ECR_IN EXT_SW SDA SCL VCC9
CB_IN CR_IN
G_OUT B_OUT GSH BSH VCC_OUT IK_IN ABL_FIL ABL_IN GND_OUT VS_IN VTIM F0
V_OSC V_AGC V_DRV+
V_DRV- VREG EW_DRV VCOMP_IN HCOMP_IN GND_V VPROT VCC5H IREF_HV AFC_FIL CERA HPROT L2_FIL HP_IN HD_TC H_DRV GND_H HS_IN SCP
J 1/5
uCOM BLOCK
SDA2 SCL2
66
67
68
69
IC4606 CXA2153S
RIN VCC5 GIN SYNCIN GND BIN ABL OSD_BLK OSD_R OSD_G PSD_B SYNCOUT CLP BLK VDET
VCC12 ROUT GND_R GOUT GND_G BOUT GND_B VREF VCC12 R_BKG G_BKG B_BKG G2 SCL SDA
1.5-5.5V
RGB PREAMP
+12V±0.5V
+5V±0.25V
Q4616 Q4666 Q4668 Q4669 Q4670
X4601 A551166-T470
uCOM BLOCK
PMUTE
MUTE:LOW
Q4620
31K:LOW
31K/33K
COMPFULL
I/P:LOW
J 1/5
VDRV- HBLK VDRV+ HPIN HDRV VBLK
Q4633 Q4635 Q4636 Q4637 Q4638 Q4643 Q4644 D4609 D4610 D4623
IC4610 TC74HC126AF-TBB
1G 1A 1Y 2G 2A 2Y GND VCC 4G 4A 4Y 3G 3A 3Y
Q4630 Q4639
MAX:+18V
IC4611 NJM319M-TFB
+INPUT 1 -INPUT 1 -INPUT 2 +INPUT 2 OUTPUT 1 OUTPUT 2 GND1 GND2 V+ V-
IC4609 AD8057ART-TRB
C4724 15P
Q4640 Q4645 2SA1669-TLB
1.39V
J 2/5
DHS DVS HS VS
+2V~6V
J 1/5
VMUTE AUTOACL ACLOFF CPURST
MUTE:HIGH
0-9V
ACLOFF:HIGH
ABL ACL
J 3/5
SHARPNESS BLOCK
DCLP
D4614 D4624
Q4646 Q4649 Q4667 Q4671 Q4648 Q4666 Q4653
J 4/5

J 4/5 VIDEO UCOM SERVICE ASSY (AWV1992)
• VIDEO BLOCK

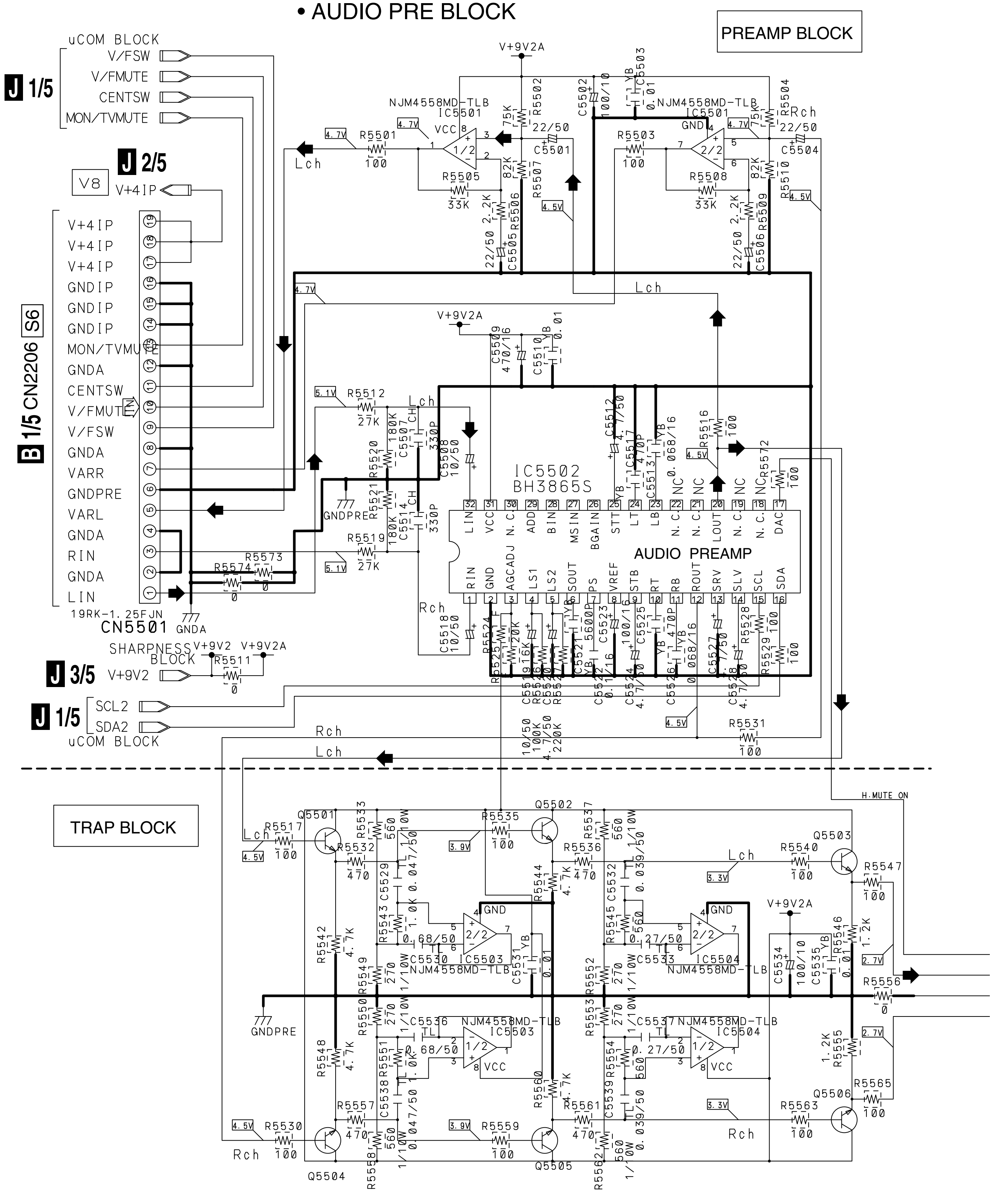


A
B
C
D
E
F
uCOM BLOCK
J 3/5
SHARPNESS BLOCK
PURERGB
OSDHALF
CVBLK
OSDBLK
OSDR
OSDG
OSDB
CVR
CVG
CVB
V+12V3
V+13
RGB:HIGH
OSD HALF:HIGH
CCD:HIGH
OSD:HIGH
: Y SIGNAL ROUTE
(RGB) : R, G or B SIGNAL ROUTE
(PB) : PB SIGNAL ROUTE
(PR) : PR SIGNAL ROUTE
OSD SW
IC4602
TC74HC4053AF-TLB
IC4615
TC7SET08FU-TLB
PQ12DZ11-TLB
+12V±0. 36V
V+5V3
V+12V2
IC4612
TC7SB66FU-TLB
IC4613
TC7SB66FU-TLB
IC4614
TC7SB66FU-TLB
3VPD. 1.3Vp-p
TP4605
70
71
1. 5-5. 5V
1. 1-2. 6V
1. 57V
MAX :12. 6V
2. 95~4. 45V
2SC3598(DEF)
3. 3VPD. 1. 3Vp-p
V12
CN4601
KM250MA15
GND
R
G
B
V+12V3
L CN5151 G2
K CN5101 R2
M CN5201 B2

SIGNAL	ACTIVE	HIGH_LEV	LOW_LEV
H_BLK	HIGH_ACT	+5V	0V
V_BLK	HIGH_ACT	+5V	0V
H_DRV	HIGH_ACT	+5V	0V
DHS	LOW_ACT	+3. 3V	0V
DVS	LOW_ACT	+3. 3V	0V
SEL_H	HIGH_ACT	+5V	0V
SEL_V	HIGH_ACT	+5V	0V
DCLP	HIGH_ACT	+5V	0V
EW			
V_DRV			
KMSK	HIGH_ACT	+5V	0V
SCP	HIGH_ACT	+5V 2. 5V	0V
SPOT	HIGH_ACT	+5V	0V
SPOTPD	HIGH_ACT	+5V	0V

3.16 VIDEO UCOM ASSY (5/5)

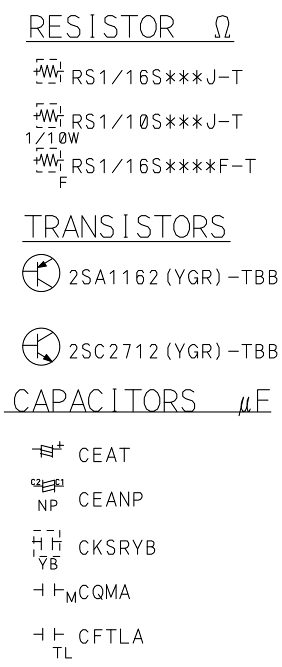
J 5/5 VIDEO UCOM SERVICE ASSY (AWV1992)
• AUDIO PRE BLOCK


PREAMP BLOCK
J 1/5
uCOM BLOCK
V/FSW
V/FMUTE
CENTSW
MON/TVMUTE
J 2/5
V8
V+4IP
B 1/5 CN2206 S6
V+4IP
V+4IP
V+4IP
GNDIP
GNDIP
GNDIP
MON/TVMUTE
GNDA
CENTSW
V/FMUTE
V/FSW
GNDA
VARR
GNDPRE
VARL
GNDA
RIN
GNDA
LIN
19RK-1.25FJN
CN5501
GNDA
R5574 0
R5573 0
V+9V2A
NJM4558MD-TLB
IC5501
VCC
1/2
R5501 100
4.7V
Lch
R5505 33K
R5502 75K
22/50
C5501
R5507 82K
R5506 2.2K
C5505 22/50
4.5V
C5502 100/10
C5503 0.01 YB
IC5501
GND
2/2
R5503 100
R5508 33K
R5504 75K
Rch
22/50
C5504
R5510 82K
R5509 2.2K
C5506 22/50
4.5V
V+9V2A
C5509 470/16
C5510 0.01 YB
Lch
5.1V
R5512 27K
Lch
R5520 180K
C5507 CH 330P
C5508 10/50
GNDPRE
R5521 180K
C5514 CH 330P
R5519 27K
5.1V
Rch
C5518 10/50
IC5502
BH3865S
AUDIO PREAMP
LIN VCC N.C. ADD BIN MSIN BGAIN STT LT LB N.C. N.C. LOUT N.C. N.C. DAC
RIN GND AGCADJ LS1 LS2 SOUT PS VREF STB RT RB ROUT SRV SLV SCL SDA
C5512 4.7/50
C5517 470P
C5513 0.068/16 YB
R5516 100
4.5V
R5572 100
R5524 20K
R5525 16K
C5519 10/50
C5520 100K
C5521 4.7/50
R5526 220K
C5522 0.1/16
C5523 5600P
C5524 4.7/50
C5525 100/16
C5526 0.068/16
C5527 470P YB
C5528 4.7/50
R5528 100
R5529 100
SHARPNESS BLOCK
J 3/5
V+9V2
V+9V2 V+9V2A
R5511 0
J 1/5
SCL2
SDA2
uCOM BLOCK
Rch
Lch
4.5V
R5531 100
TRAP BLOCK
Q5501
R5517 100
Lch
4.5V
R5533 560
R5532 470
1/10W
C5529 0.047/50
R5535 100
3.9V
Q5502
R5537 560
R5536 470
1/10W
C5532 0.039/50
R5543 1.0K
C5530 0.68/50
IC5503
NJM4558MD-TLB
2/2
GND
R5544 4.7K
C5531 0.01 YB
R5545 560
C5533 0.27/50
IC5504
NJM4558MD-TLB
Lch
3.3V
R5540 100
Q5503
R5547 100
V+9V2A
C5534 100/10
C5535 0.01 YB
R5546 1.2K
2.7V
R5556 0
H.MUTE ON
R5542 4.7K
R5549 270 1/10W
R5552 270 1/10W
GNDPRE
R5550 270 1/10W
R5553 270 1/10W
C5536
C5537
NJM4558MD-TLB
IC5503
1/2
VCC
0.68/50
NJM4558MD-TLB
IC5504
0.27/50
R5548 4.7K
R5551 1.0K
R5554 560
C5538 0.047/50
C5539 0.039/50
R5560 4.7K
R5555 1.2K
2.7V
R5565 100
Q5506
R5557 470
R5561 470
3.3V
R5563 100
Rch
4.5V
R5530 100
Rch
3.9V
R5559 100
Q5504
R5558 560 1/10W
Q5505
R5562 560 1/10W

J 5/5

VAR AMP

NOTE


RESISTOR Ω
RS1/16S∗∗∗J-T
1/10W
RS1/10S∗∗∗J-T
F
RS1/16S∗∗∗∗F-T
TRANSISTORS
2SA1162(YGR)-TBB
2SC2712(YGR)-TBB
CAPACITORS μF
CEAT
C2 C1
NP
CEANP
YB
CKSRYB
M
CQMA
TL
CFTLA

➡ : AUDIO SIGNAL ROUTE

IC5502 (BH3865S)

No	Voltage (V)	No	Voltage (V)
1	4.5	17	0/5
2	0	18	-
3	4.0	19	-
4	-	20	4.5
5	-	21	-
6	4.5	22	-
7	4.5	23	4.5
8	4.5	24	4.5
9	2.5	25	1.5
10	4.5	26	4.5
11	4.5	27	4.5
12	4.5	28	4.5
13	0.5	29	4.5
14	0.5	30	-
15	0/5	31	9
16	0/5	32	4.5

IC5501 (NJM4558MD)

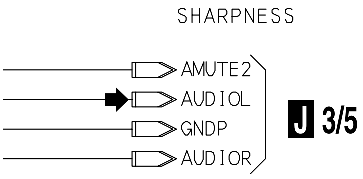
No	Voltage (V)
1	4.8
2	4.8
3	4.8
4	0
5	4.8
6	4.8
7	4.8
8	9.0

IC5503 (NJM4558MD)

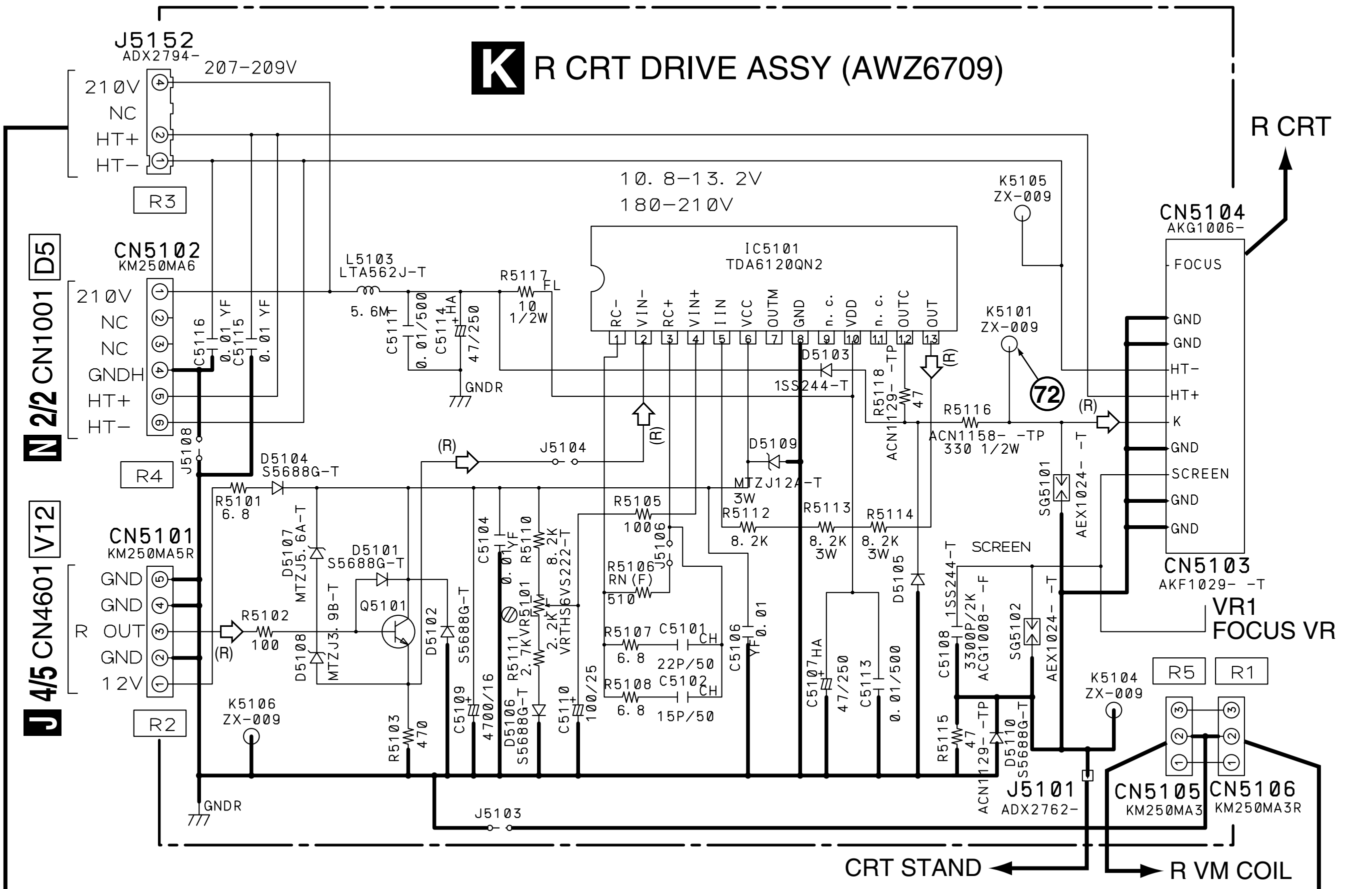
No	Voltage (V)
1	2.9
2	2.9
3	2.9
4	0
5	2.9
6	2.9
7	2.9
8	9

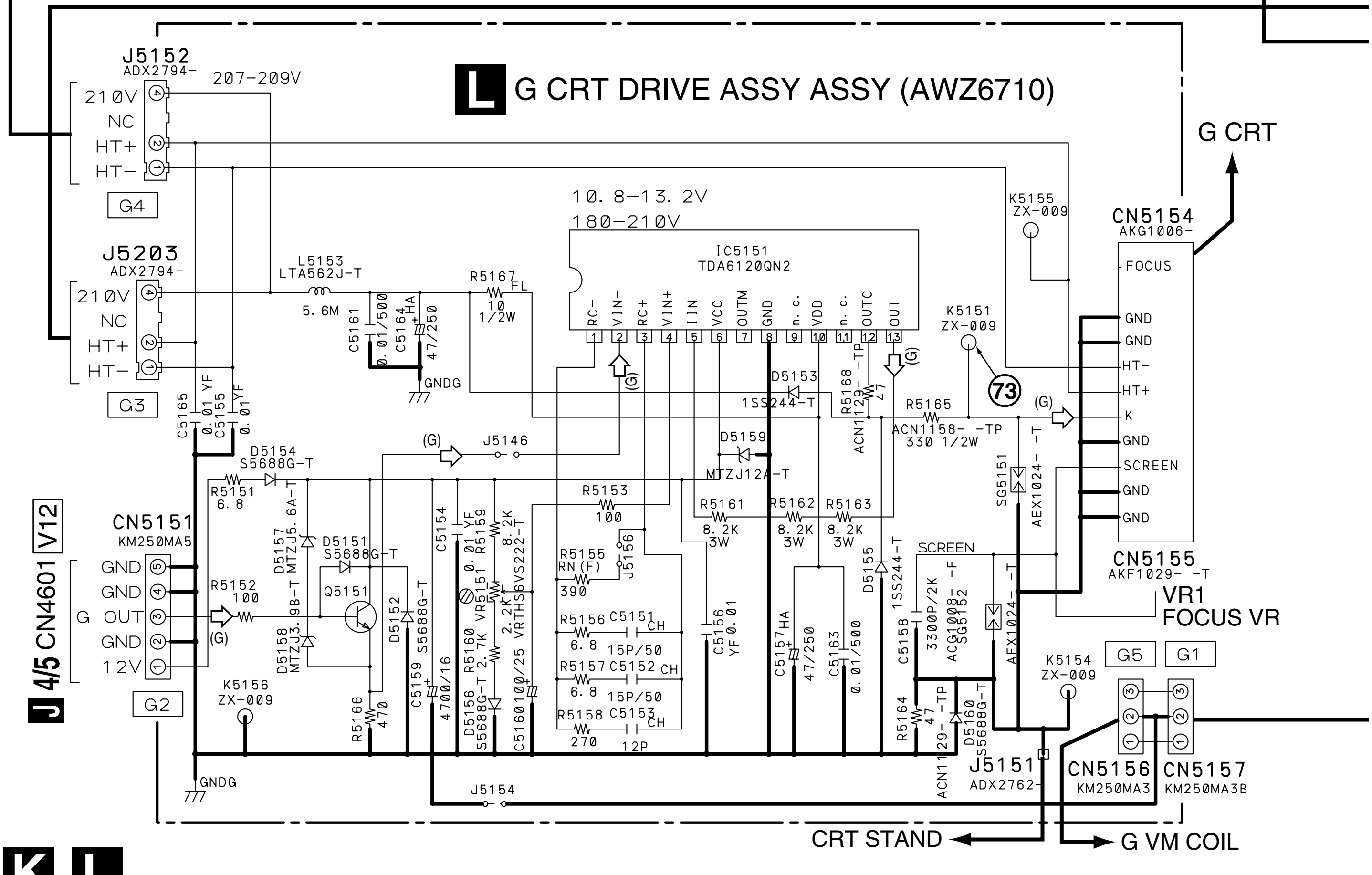
IC5504 (NJM4558MD)

No	Voltage (V)
1	2.9
2	2.9
3	2.9
4	0
5	2.9
6	2.9
7	2.9
8	9.0


SHARPNESS
AMUTE2
AUDIOL
GNDP
AUDIOR
J 3/5

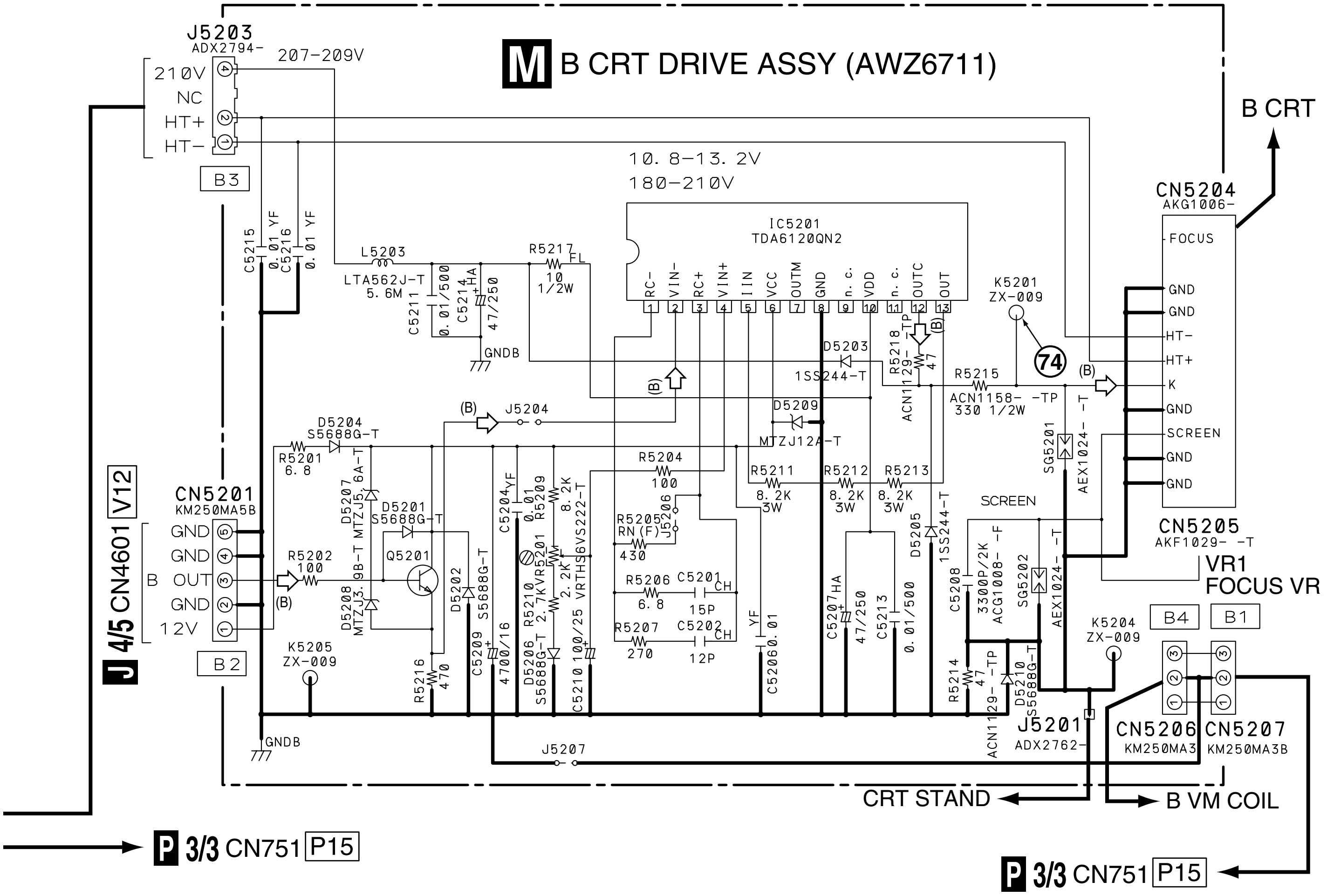
3.17 R, G and B CRT DRIVE ASSYS


K R CRT DRIVE ASSY (AWZ6709)
J5152
ADX2794-
207-209V
210V
NC
HT+
HT−
R3
CN5102
KM250MA6
D5
N 2/2 CN1001
210V
NC
NC
GNDH
HT+
HT−
R4
C5116
0.01 YF
C5115
0.01 YF
J5108
L5103
LTA562J-T
5.6M
C5111
0.01/500
C5114
HA
47/250
GNDR
R5117
FL
10
1/2W
10.8-13.2V
180-210V
IC5101
TDA6120QN2
RC−
VIN−
RC+
VIN+
IIN
VCC
OUTM
GND
n.c.
VDD
n.c.
OUTC
OUT
D5103
1SS244-T
K5105
ZX-009
K5101
ZX-009
72
CN5104
AKG1006-
FOCUS
GND
GND
HT−
HT+
K
GND
SCREEN
GND
GND
CN5103
AKF1029- -T
VR1
FOCUS VR
R CRT
R5118
ACN1129- -TP
47
R5116
ACN1158- -TP
330 1/2W
SG5101
AEX1024- -T
(R)
J5104
D5104
S5688G-T
R5101
6.8
D5109
MTZJ12A-T
3W
R5105
1006
R5112
8.2K
R5113
8.2K
3W
R5114
8.2K
3W
D5105
1SS244-T
SCREEN
V12
CN5101
KM250MA5R
J 4/5 CN4601
GND
GND
R OUT
GND
12V
R5102
100
D5107
MTZJ5.6A-T
D5101
S5688G-T
Q5101
D5108
MTZJ3.9B-T
D5102
S5688G-T
C5104
0.01 YF
R5110
8.2K
VR5101
2.7K
R5111
2.2K
VRTHS6VS222-T
R5106
RN(F)
510
J5106
R5107
6.8
C5101
22P/50
CH
R5108
6.8
C5102
15P/50
CH
C5106
YF 0.01
C5107
HA
47/250
C5113
0.01/500
C5108
3300P/2K
ACG1008- -F
SG5102
AEX1024- -T
K5104
ZX-009
R5
R1
K5106
ZX-009
R2
R5103
470
C5109
4700/16
D5106
S5688G-T
C5110
100/25
R5115
ACN1129- -TP
47
D5110
S5688G-T
J5101
ADX2762-
CN5105
KM250MA3
CN5106
KM250MA3R
GNDR
J5103
CRT STAND
R VM COIL


L G CRT DRIVE ASSY ASSY (AWZ6710)
J5152
ADX2794-
207-209V
210V
NC
HT+
HT−
G4
J5203
ADX2794-
210V
NC
HT+
HT−
G3
L5153
LTA562J-T
5.6M
C5161
0.01/500
C5164
HA
47/250
GNDG
R5167
FL
10
1/2W
10.8-13.2V
180-210V
IC5151
TDA6120QN2
RC−
VIN−
RC+
VIN+
IIN
VCC
OUTM
GND
n.c.
VDD
n.c.
OUTC
OUT
K5155
ZX-009
K5151
ZX-009
73
CN5154
AKG1006-
FOCUS
GND
GND
HT−
HT+
K
GND
SCREEN
GND
GND
CN5155
AKF1029- -T
VR1
FOCUS VR
G CRT
D5153
1SS244-T
R5168
ACN1129- -TP
47
R5165
ACN1158- -TP
330 1/2W
(G)
C5165
0.01 YF
C5155
0.01 YF
D5154
S5688G-T
J5146
D5159
MTZJ12A-T
R5151
6.8
R5153
100
R5161
8.2K
3W
R5162
8.2K
3W
R5163
8.2K
3W
D5155
1SS244-T
SCREEN
SG5151
AEX1024- -T
V12
CN5151
KM250MA5
J 4/5 CN4601
GND
GND
G OUT
GND
12V
R5152
100
D5157
MTZJ5.6A-T
D5151
S5688G-T
Q5151
D5158
MTZJ3.9B-T
D5152
S5688G-T
C5154
0.01 YF
R5159
8.2K
VR5151
2.7K
R5160
2.2K
VRTHS6VS222-T
R5155
RN(F)
390
J5156
R5156
6.8
C5151
15P/50
CH
R5157
6.8
C5152
15P/50
CH
R5158
270
C5153
12P
CH
C5156
YF 0.01
C5157
HA
47/250
C5163
0.01/500
C5158
3300P/2K
ACG1008- -F
SG5152
AEX1024- -T
K5154
ZX-009
G5
G1
K5156
ZX-009
G2
R5166
470
C5159
4700/16
D5156
S5688G-T
C5160
100/25
R5164
ACN1129- -TP
47
D5160
S5688G-T
J5151
ADX2762-
CN5156
KM250MA3
CN5157
KM250MA3B
GNDG
J5154
CRT STAND
G VM COIL

K L

M B CRT DRIVE ASSY (AWZ6711)


J5203
ADX2794-
207-209V
210V
NC
HT+
HT-
B3
B CRT
CN5204
AKG1006-
FOCUS
GND
GND
HT-
HT+
K
GND
SCREEN
GND
GND
10.8-13.2V
180-210V
IC5201
TDA6120QN2
RC-
VIN-
RC+
VIN+
IIN
VCC
OUTM
GND
n.c.
VDD
n.c.
OUTC
OUT
C5215
0.01 YF
C5216
0.01 YF
L5203
LTA562J-T
5.6M
C5211
0.01/500
C5214
47/250
HA
R5217
10
1/2W
FL
GNDB
K5201
ZX-009
74
D5203
1SS244-T
R5218
ACN1129-
47
R5215
ACN1158- -TP
330 1/2W
D5209
MTZJ12A-T
D5204
S5688G-T
R5201
6.8
J5204
R5204
100
R5211
8.2K
3W
R5212
8.2K
3W
R5213
8.2K
3W
D5205
1SS244-T
SG5201
AEX1024- -T
SCREEN
CN5205
AKF1029- -T
VR1
FOCUS VR
CN5201
KM250MA5B
V12
J 4/5 CN4601
GND
GND
B OUT
GND
12V
B2
R5202
100
D5207
MTZJ5.6A-T
D5201
S5688G-T
Q5201
D5208
MTZJ3.9B-T
D5202
S5688G-T
C5204
0.01
YF
R5209
8.2K
R5205
RN(F)
430
J5206
VR5201
2.2K
R5210
2.7K
6VS222-T
VRTHS
R5206
6.8
C5201
15P
CH
R5207
270
C5202
12P
CH
C5206
0.01
YF
C5207
47/250
HA
C5213
0.01/500
C5208
3300P/2K
ACG1008- -F
SG5202
AEX1024- -T
K5204
ZX-009
B4
B1
K5205
ZX-009
R5216
470
C5209
4700/16
D5206
S5688G-T
C5210
100/25
R5214
ACN1129- -TP
47
D5210
S5688G-T
J5201
ADX2762-
CN5206
KM250MA3
CN5207
KM250MA3B
J5207
GNDB
(B)
CRT STAND
B VM COIL
P 3/3 CN751 P15
P 3/3 CN751 P15

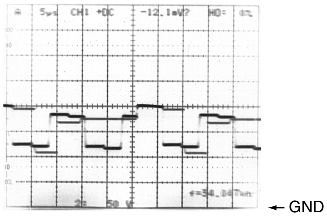
*Resistor indicated in ohm, 1/4W+5% tolerance
unless otherwise noted. k:k ohm, M:M ohm

*Capacitor indicated in Capacity(uF)/Voltage(V)
unless otherwise noted. p:pF
indication without voltage is 50V
except Electrolytic capacitor.

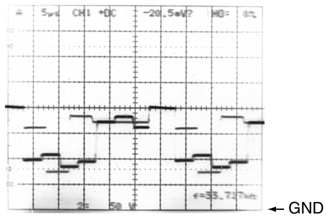
*Transister
2SC1740S(RS)-T

(RGB)⇨: R, G or B SIGNAL ROUTE

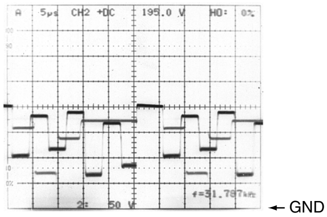
72 K5101 (Cathode R)
V: 50V/div. H: 5μsec/div.
(Input : INPUT1, EIA color-bar (COMPOSITE))



73 K5151 (Cathode G)
V: 50V/div. H: 5μsec/div.
(Input : INPUT1, EIA color-bar (COMPOSITE))

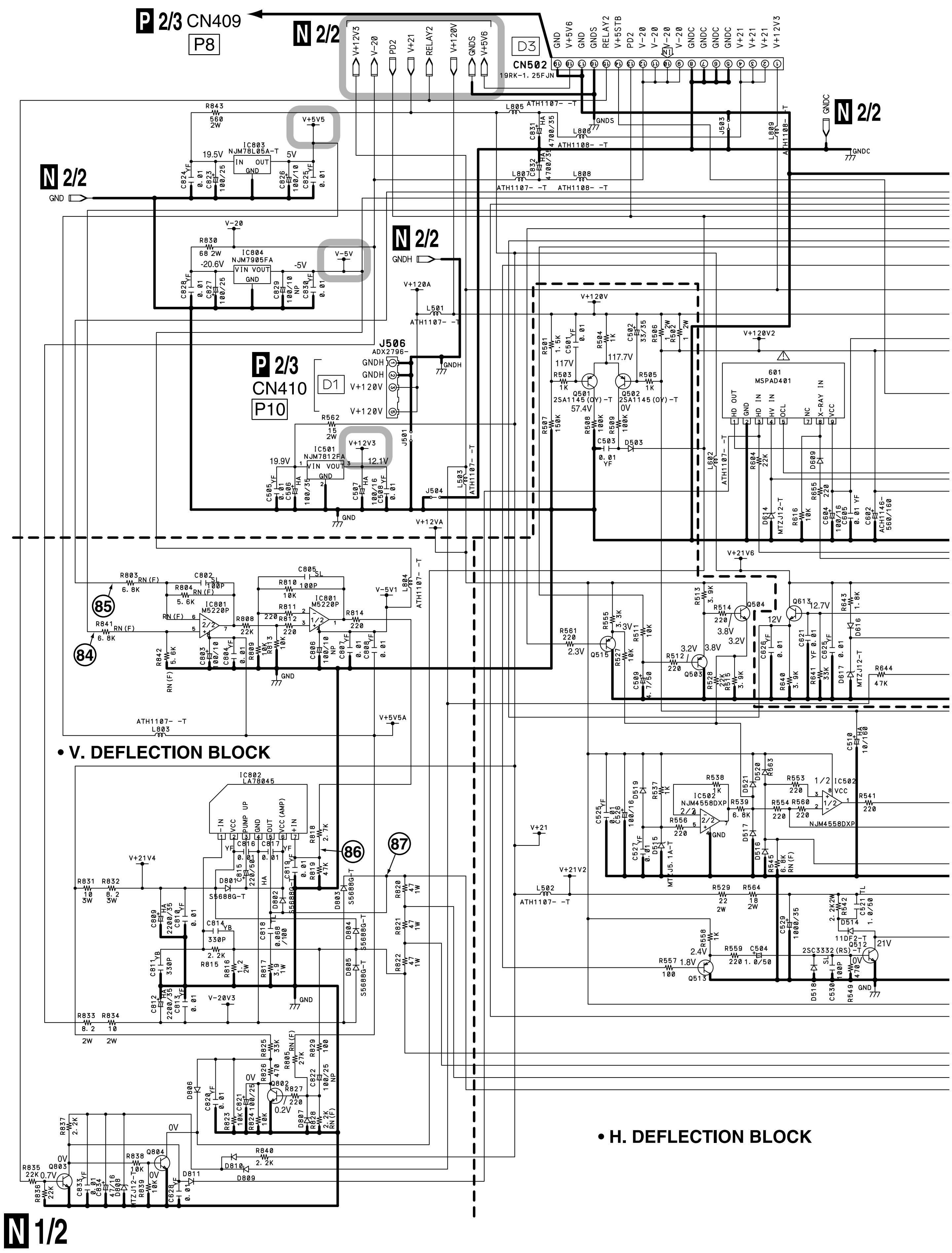


74 K5201 (Cathode B)
V: 50V/div. H: 5μsec/div.
(Input : INPUT1, EIA color-bar (COMPOSITE))



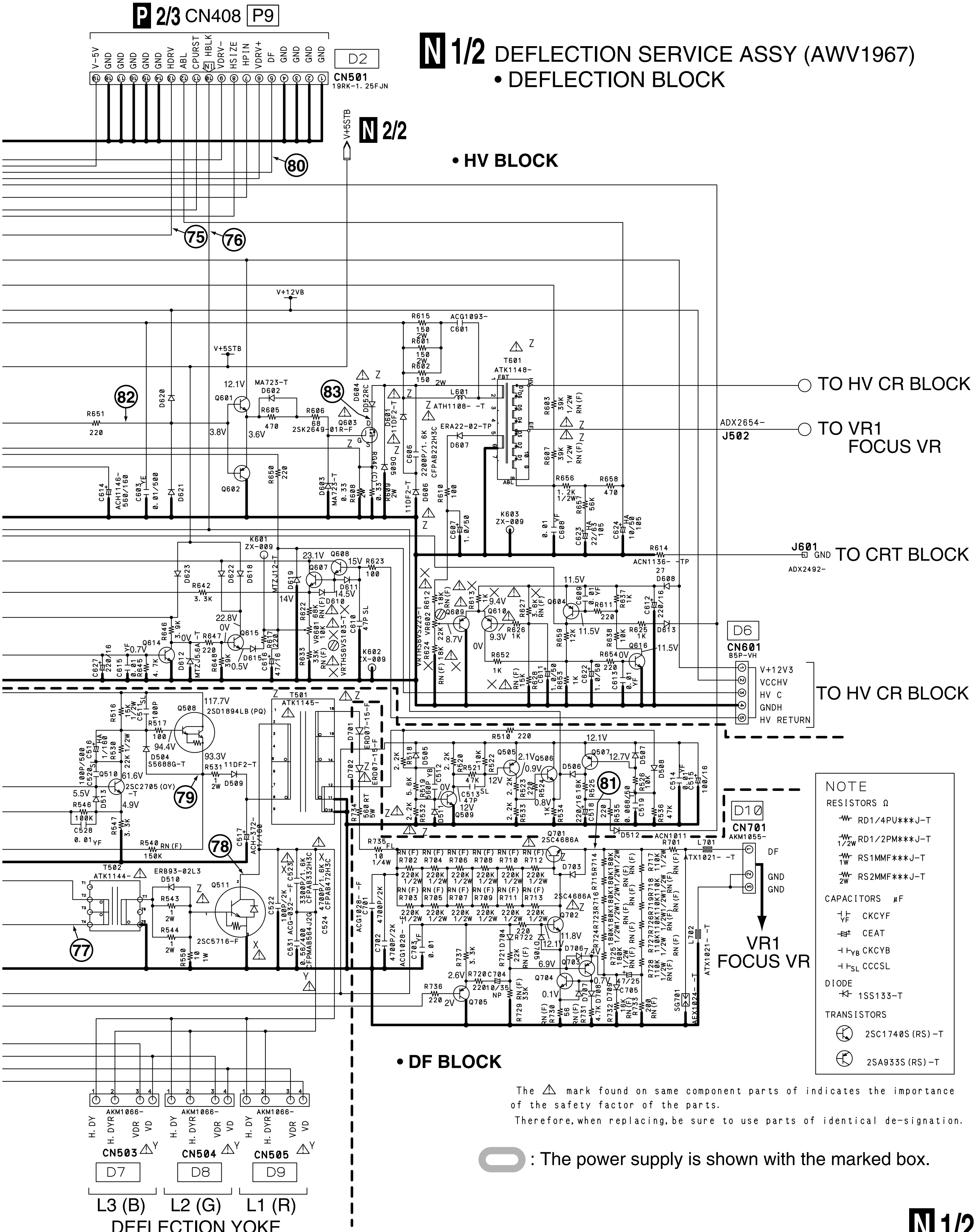
P 3/3 CN751 P15

3.18 DEFLECTION SERVICE ASSY (1/2)


P 2/3 CN409
P8
N 2/2
V+12V3
V-20
PD2
V+21
RELAY2
V+120V
GNDS
V+5V6
D3
CN502
19RK-1.25FJN
GND
V+5V6
GND
GNDS
RELAY2
V+5STB
PD2
V-20
V-20
V-20
V-20
GNDC
GNDC
GNDC
GNDC
V+21
V+21
V+21
V+12V3
N 2/2
GNDC
R843 560 2W
V+5V5
IC803 NJM78L05A-T
19.5V
5V
IN OUT GND
C824 YF 0.01
C823 100/25
C826 100/10
C825 YF 0.01
N 2/2
GND
V-20
R830 68 2W
IC804 NJM7905FA
-20.6V
-5V
VIN VOUT GND
V-5V
C828 YF 0.01
C827 100/25
C829 100/10 NP
C830 YF 0.01
N 2/2
GNDH
V+120A
L501 ATH1107- -T
J506 ADX2796-
P 2/3
CN410
P10
D1
GNDH
GNDH
V+120V
V+120V
GNDH
R562 15 2W
V+12V3
IC501 NJM7812FA
19.9V
12.1V
VIN VOUT GND
C505 YF 0.01
C506 HA 100/35
C507 HA 100/16
C508 YF 0.01
J501
J504
L503 ATH1107- -T
GND
V+12VA
L805 ATH1107- -T
C831 HA 4700/35
L806 ATH1108- -T
GNDS
C832 HA 4700/35
L807 ATH1107- -T
L808 ATH1108- -T
J503
L809 ATH1108- -T
GNDC
V+120V
R501 1.5K
C501 YF 0.01
R504 1K
C502 33/35
R506 1 2W
R502 1 2W
117V
117.7V
R503 1K
Q501 2SA1145(OY)-T
Q502 2SA1145(OY)-T
R505 1K
57.4V
0V
R507 150K
R508 100K
R509 100K
C503 0.01 YF
D503
V+120V2
601 MSPAD401
HD OUT
GND
HD IN
HV IN
OCL
NC
X-RAY IN
VCC
L602 ATH1107- -T
R604 22K
D609
D614 MTZJ12-T
R616 10K
R655 220
C604 100/16
C605 YF 0.01
C602 ACH1146- 560/160
V+21V6
R513 3.9K
R514 220
Q504
3.8V
3.2V
Q613
12V
12.7V
R643 1.8K
D616
R555 3.3K
3.3V
R511 10K
R561 220
2.3V
Q515
R527 10K
R512 220
3.2V
3.8V
Q503
C509 4.7/50
R528 22K
R515 3.9K
C626 YF 0.01
C621 YF 0.01
C625 YF 0.01
R640 3.9K
R641 33K
D617 MTZJ12-T
R644 47K
R803 RN(F) 6.8K
C802 SL 100P
R804 RN(F) 5.6K
IC801 M5220P
85
84
R841 RN(F) 6.8K
R808 22K
C805 SL
R810 100P 10K
R811 220
R812 220
IC801 M5220P
R814 220
V-5V1
L804 ATH1107- -T
R842 5.6K RN(F)
C803 100/10
C804 YF 0.01
R809 10K
R813 10K
C806 100/10 NP
C807 YF 0.01
C808 YF 0.01
GND
ATH1107- -T
L803
V+5V5A
• V. DEFLECTION BLOCK
IC802 LA78045
-IN
VCC
PUMP UP
GND
OUT
VCC (AMP)
+IN
C816 YF
C817 YF
R818 2.7K
86
87
R819 47K
C815 220/50
C819 HA
D801 S5688G-T
D802 S5688G-T
D803 S5688G-T
V+21V4
R831 10 3W
R832 8.2 3W
C809 HA 2200/35
C810 YF 0.01
C814 YB 330P
R815 2.2K
R816 1.2 2W
C818 TL 0.068/100
R817 3.9 1W
D804 S5688G-T
D805 S5688G-T
R820 47 1W
R821 47 1W
R822 47 1W
C811 YB 330P
C812 HA 2200/35
C813 YF 0.01
V-20V3
GND
R833 8.2 2W
R834 10 2W
R825 33K
R805 RN(F) 27K
R829 100
R826 470
0V
Q802
R827 220
0.2V
C822 100/25 NP
D806
C820 YF 0.01
R823 10K
C821 100/25
R824 10K
D807
R828 2.2K RN(F)
R837 2.2K
0V
Q804
R838 10K
0V
R840 2.2K
D810
D809
D811
R835 22K
0V
0.7V
Q803
C833 YF 0.01
C834 47/16
D808 MTZJ12-T
R839 10K
C628 YF 0.01
R836 22K
N 1/2
V+21
C525 YF
C526 100/16
D519
R537 1K
R538 1K
IC502 NJM4558DXP 2/2
R556 220
D515 MTZJ5.1A-T
C527 YF 0.01
R539 6.8K
D521
D520
R563
R553 220
1/2 IC502
R554 220
R560 220
R541 220
NJM4558DXP
D517
D516
R545 6.8K RN(F)
C510 HA 10/160
V+21V2
L502 ATH1107- -T
R529 22 2W
R564 18 2W
C529 1000/35
R542 2.2K 2W
C521 TL 1.0/50
D514 11DF2-T
Q512 2SC3332(RS)-T
21V
0V
R558 1K
2.4V
R559 220
C504 1.0/50
R557 100
1.8V
Q513
D518
C530 SL 100P
R550 470
R549
GND
• H. DEFLECTION BLOCK
A
B
C
D
E
F

N 1/2 DEFLECTION SERVICE ASSY (AWV1967)

• DEFLECTION BLOCK


P 2/3 CN408 P9
V-5V
GND
GND
GND
GND
GND
HDRV
ABL
CPURST
HBLK
VDRV-
HSIZE
HPIN
VDRV+
DF
GND
GND
GND
GND
D2
CN501
19RK-1.25FJN
V+5STB
N 2/2
80
75
76
• HV BLOCK
V+12VB
V+5STB
82
83
R651 220
D620
Q601
12.1V
MA723-T
D602
R605 470
R606 68
Q603 2SK2649-01R-F
3.8V
3.6V
Q602
R650 220
C614
ACH1146- 560/160
C603 0.01/500
D621
D603 MA723-T
R608 0.33
R609 0.33 2W
D604 DD52RC
D601 11DF2-T
D605
D606 11DF2-T
C606 2200P/1.6K CFPAB222H3C
R615 150 2W
ACG1093-
C601
R601 150 2W
R602 150 2W
L601
ATH1108- -T
ERA22-02-TP
D607
R610 100
T601 ATK1148- FBT
R603 39K 1/2W RN(F)
R607 39K 1/2W RN(F)
R656 1.2K 1/2W
R658 470
R657 56K
C608 0.01 YF
C623 22/63 105
C624 10/50 105
K603 ZX-009
C607 1.0/50
TO HV CR BLOCK
ADX2654-
J502
TO VR1 FOCUS VR
J601 GND
TO CRT BLOCK
ADX2492-
R614 ACN1136- -TP 27
D608
K601 ZX-009
23.1V
Q608
15V
R623 100
Q607
D611
14.5V
D610
D619
14V
MTZJ12-T
D623
D622
D618
R642 3.3K
22.8V
0V
Q615
R617 220
C616 47/16
R646 3.9K
R647 220
R648 39K
D615
0.5V
Q614
0.7V
3.0V
D612
MTZJ5.6A-T
R645 4.7K
C615 0.01
C627 220/16
R622 68K
VR601 33K 10K
R633 RN(F)
VRTH56VS103-T
C610 47P SL
K602 ZX-009
VRTH56VS223-T
R612 RN(F)
R613 18K
Q609
8.7V
VR602
R624 18K RN(F)
9.4V
Q610
9.3V
R626 1K
R627 3.6K
R652 1K
R628 15K RN(F)
C611 1.0/50
R653 1K
C622 1.0/50
Q604
11.5V
C609 0.01 YF
R611 220
R637 1K
C612 220/16
R659 12K
R638 10K
11.5V
R625 1K
D613
Q616
11.5V
R654 220
C613 0.01 YF
D6
CN601
B5P-VH
V+12V3
VCCHV
HV C
GNDH
HV RETURN
TO HV CR BLOCK
R516 15K 1/2W
C511 100P SL
Q508
117.7V
2SD1894LB(PQ)
R517 100
94.4V
D504 S5688G-T
93.3V
R531 2W
11DF2-T
D509
C516 1/160
R530 22K 1/2W
C520 100P/500 SL
Q510
61.6V
2SC2705(OY) -T
79
5.5V
D513
4.9V
R546 100K
C528 0.01 YF
R547 3.3K
R540 150K RN(F)
T501 ATK1145-
D701
ERD07-15-F
D702
ERD07-15-F
78
C517
ACH-372- 1/160
T502 ATK1144-
ERB93-02L3
D510
Q511
R543 1 2W
R544 1 2W
2SC5716-F
R550 10 1W
C522
C531 ACG-032- 0.56/400 CFPMAB564J2G
C523 3300P/1.6K
C524 4700P/1.6K CFPAB472H3C
77
R734 560 RT 5W
R735 10 1/4W
ACG1028- -F
C701 4700P/2K
C702 4700P/2K
ACG1028- -F
C703 0.01 YF
R510 220
12.1V
R518 2.2K
D505
R520 2.2K
R521 47K
R522 10K
Q505
2.1V
Q506
0.9V
D506
Q507
12.7V
D507
D508
C512 100P
R519 5.6K
R532 2.2K
D511
0V
Q509
C513 47P SL
12V
R523 2.2K
R524 220
R533 2.2K
0.8V
R534 1K
81
R525 18K
C518 220/16
R535 220
C519 0.068/50
R536 47K
C514 0.01
C515 100/16
D512
ACN1011
R701
L701
ATX1021- -T
D10
CN701
AKM1055-
DF
GND
GND
VR1 FOCUS VR
Q701 2SC4686A
R702 220K 1/2W RN(F)
R704 220K 1/2W RN(F)
R706 220K 1/2W RN(F)
R708 220K 1/2W RN(F)
R710 220K 1/2W RN(F)
R712 220K 1/2W RN(F)
R703 220K 1/2W RN(F)
R705 220K 1/2W RN(F)
R707 220K 1/2W RN(F)
R709 220K 1/2W RN(F)
R711 220K 1/2W RN(F)
R713 220K 1/2W RN(F)
D703
2SC4686A
Q702
R714 180K 1/2W RN(F)
R715 180K 1/2W RN(F)
R716 180K 1/2W RN(F)
R717 110K 1/2W RN(F)
R718 110K 1/2W RN(F)
R719 110K 1/2W RN(F)
R720 C704 22010/35 NP
R721 D704
R722 220
R723
R724
R725
R726
R727
R728
11.8V
12.1V
D706
Q703
6.9V
Q704
0.1V
0.7V
C705 47/25
D707
D708
D709
R729 33K RN(F)
R730 56 RN(F)
R731 4.7K
R732
R733 200 RN(F)
R736 220
2V
Q705
2.6V
R737 3.3K
SG701
L702 ATX1021- -T
AEX1024- -T
• DF BLOCK
AKM1066-
H.DY
H.DYR
VDR
VD
CN503
D7
AKM1066-
CN504
D8
AKM1066-
CN505
D9
L3 (B)
L2 (G)
L1 (R)
DEFLECTION YOKE

NOTE
RESISTORS Ω
RD1/4PU***J-T
1/2W RD1/2PM***J-T
1W RS1MMF***J-T
2W RS2MMF***J-T
CAPACITORS μF
YF CKCYF
CEAT
YB CKCYB
SL CCCSL
DIODE
1SS133-T
TRANSISTORS
2SC1740S(RS)-T
2SA933S(RS)-T

The ⚠ mark found on same component parts of indicates the importance of the safety factor of the parts.
Therefore, when replacing, be sure to use parts of identical de-signation.

▭ : The power supply is shown with the marked box.

WAVEFORMS and VOLTAGES

Note : The encircled numbers denote measuring point in the schematic diagram.

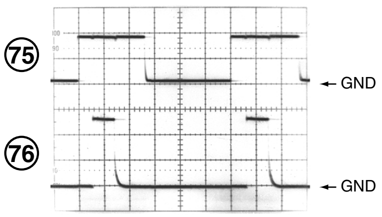
N 1/2 DEFLECTION SERVICE ASSY

- **Input signal**

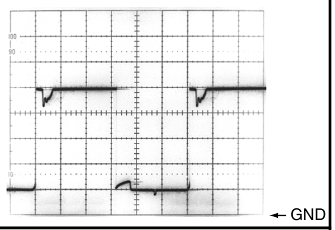
Input : INPUT 1 (COMPOSITE)
Video Signal : EIA color-bar

(75) CN501-pin 13 (HDRV)
V: 2V/div. H: 5µsec/div.

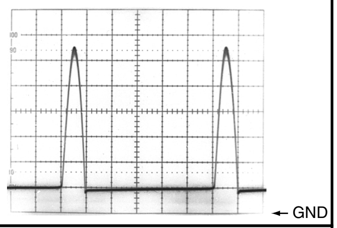
(76) CN501-pin 10 (HBLK)
V: 2V/div. H: 5µsec/div.



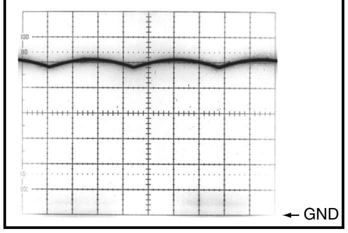
(77) Q512 Collector
V: 10V/div. H: 5µsec/div.



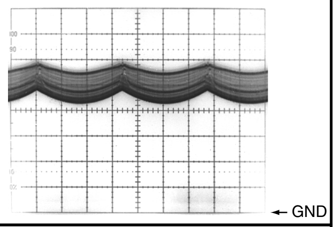
(78) Q511 Collector
V: 200V/div. H: 5µsec/div.



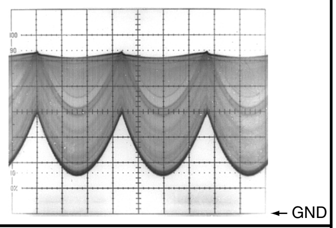
(79) Q508 Emitter
V: 20V/div. H: 5msec/div.



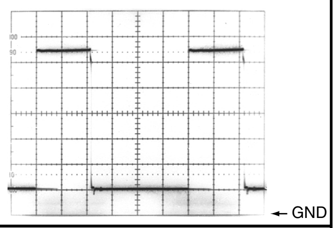
(80) CN501 - pin 5 (DF)
V: 0.5V/div. H: 5msec/div.



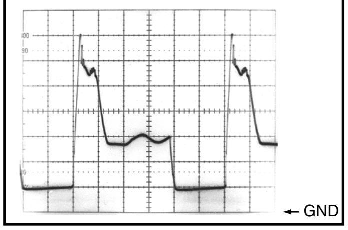
(81) Q701 Emitter
V: 200V/div. H: 5msec/div.



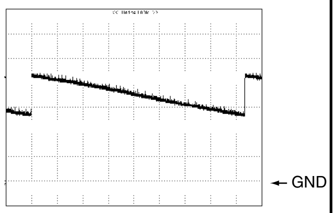
(82) Q601 Base (HD)
V: 2V/div. H: 5µsec/div.



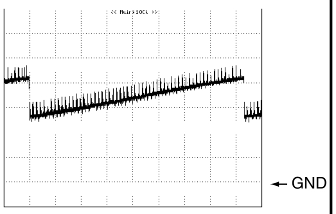
(83) Q603 Drain
V: 100V/div. H: 5µsec/div.



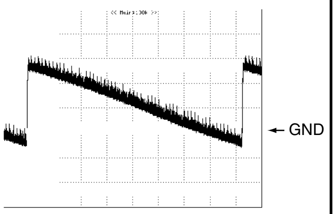
(84) Foot of R841
V: 1V/div. H: 2msec/div.



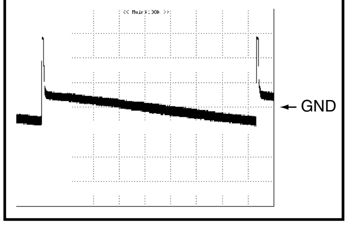
(85) Foot of R803
V: 1V/div. H: 2msec/div.



(86) IC802 - pin 7
V: 0.5V/div. H: 2msec/div.



(87) IC802 - pin 5
V: 20V/div. H: 2msec/div.



601 (MSPAD401)

No	Voltage (V)
1	3.9
2	0
3	0.6
4	5.0
5	0.1
6	-
7	-
8	0
9	12.1

IC801 (M5220P)

No	Voltage (V)
1	0
2	0
3	0
4	-4.9
5	1.6
6	1.6
7	0.1
8	5.0

IC502 (NJM4558DXP)

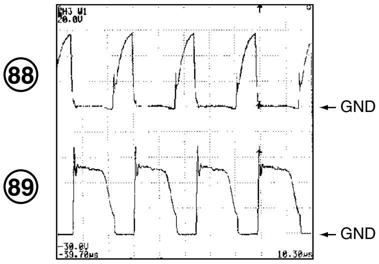
No	Voltage (V)
1	5.5
2	4.0
3	4.0
4	0
5	5.0
6	5.0
7	5.0
8	12.1

IC802 (LA78045)

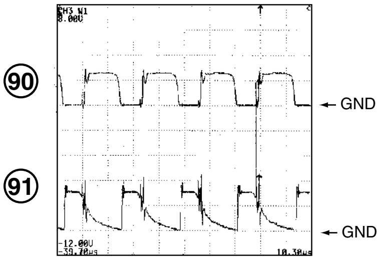
No	Voltage (V)
1	0
2	18.9
3	-18.7
4	-20.0
5	0.7
6	18.6
7	0

N 2/2 DEFLECTION SERVICE ASSY

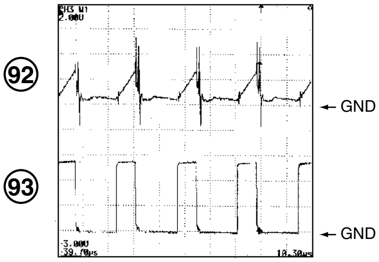
(88) **Q901 Gate**
V: 5V/div. H: 5µsec/div.
(89) **Q901 Drain**
V: 100V/div. H: 5µsec/div.



(90) **IC901 - pin 1**
V: 2V/div. H: 5µsec/div.
(91) **IC901 - pin 2**
V: 0.5V/div. H: 5µsec/div.



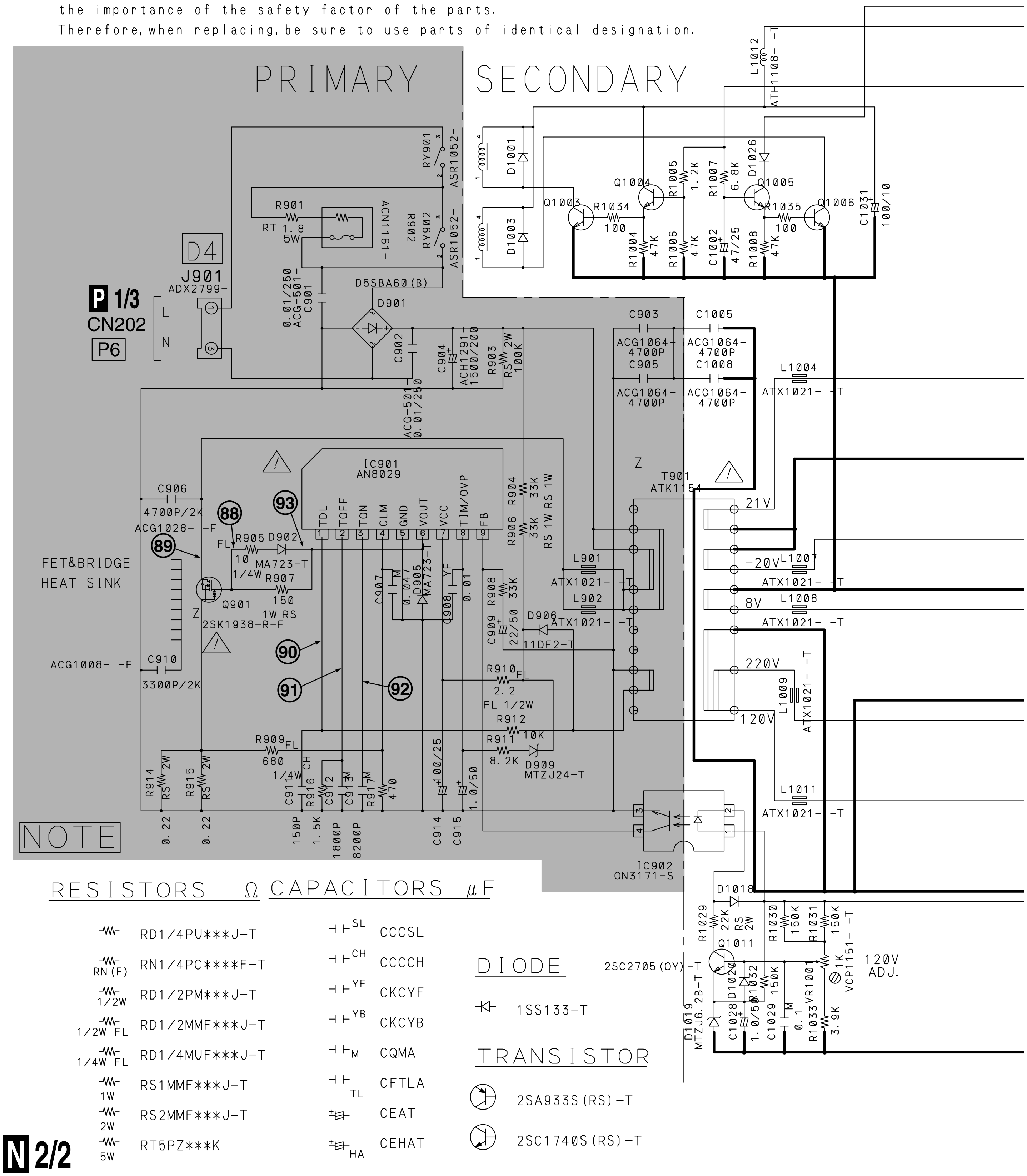
(92) **IC901 - pin 3**
V: 0.5V/div. H: 5µsec/div.
(93) **IC901 - pin 6**
V: 5V/div. H: 5µsec/div.



3.19 DEFLECTION SERVICE ASSY (2/2)

- * Resistor indicated in ohm, 1/4W +/−5% tolerance unless otherwise noted. k: k ohm, M: M ohm
- * Capacitor indicated in Capacity(uF)/Voltage(V) unless otherwise noted. p: pF indication without voltage is 50V except Electrolytic capacitor.
- * The ⚠ mark found on same component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

▨ : CHARGED SECTION



PRIMARY
SECONDARY
P 1/3
CN202
P6
D4
J901
ADX2799-
L
N
RY901
ASR1052-
RY902
ASR1052-
R901
RT 1.8
5W
ACN1161-
R902
C901
0.01/250
ACG-501-
D5SBA60(B)
D901
C902
ACG-501-
0.01/250
C904
ACH1291-
1500/200
R903
RS 2W
100K
C903
ACG1064-
4700P
C905
ACG1064-
4700P
C1005
ACG1064-
4700P
C1008
ACG1064-
4700P
L1004
ATX1021- -T
L1012
ATH1108- -T
D1001
D1003
D1026
Q1003
Q1004
Q1005
Q1006
R1034
100
R1035
100
R1004
47K
R1005
1.2K
R1006
47K
R1007
6.8K
R1008
47K
C1002
47/25
C1031
100/10
IC901
AN8029
TDL
TOFF
TON
CLM
GND
VOUT
VCC
TIM/OVP
FB
R904
33K
RS 1W
R906
33K
RS 1W
T901
ATK1154
Z
21V
−20V
8V
220V
120V
L901
ATX1021- -T
L902
ATX1021- -T
L1007
ATX1021- -T
L1008
ATX1021- -T
L1009
ATX1021- -T
L1011
ATX1021- -T
C906
4700P/2K
ACG1028- -F
88
89
90
91
92
93
FET&BRIDGE
HEAT SINK
R905
FL
10
1/4W
D902
MA723-T
R907
150
1W RS
Q901
2SK1938-R-F
C907
0.047
D905
MA723-T
C908
0.01
YF
R908
33K
C909
22/50
D906
11DF2-T
ACG1008- -F
C910
3300P/2K
R910
FL
2.2
FL 1/2W
R912
10K
R911
8.2K
D909
MTZJ24-T
R909
FL
680
1/4W
R914
RS 2W
0.22
R915
RS 2W
0.22
C911
150P
CH
R916
1.5K
C912
1800P
C913
8200P
M
R917
470
C914
100/25
C915
1.0/50
IC902
ON3171-S
NOTE
D1018
R1029
22K
RS 2W
R1030
150K
R1031
150K
Q1011
2SC2705(OY)-T
D1020
R1032
150K
C1028
1.0/50
C1029
0.1
M
VR1001
1K
VCP1151- -T
120V ADJ.
R1033
3.9K
D1019
MTZJ6.2B-T
N 2/2

RESISTORS Ω

	RD1/4PU***J-T
RN(F)	RN1/4PC****F-T
1/2W	RD1/2PM***J-T
1/2W FL	RD1/2MMF***J-T
1/4W FL	RD1/4MUF***J-T
1W	RS1MMF***J-T
2W	RS2MMF***J-T
5W	RT5PZ***K

CAPACITORS μF

SL	CCCSL
CH	CCCCH
YF	CKCYF
YB	CKCYB
M	CQMA
TL	CFTLA
	CEAT
HA	CEHAT

DIODE

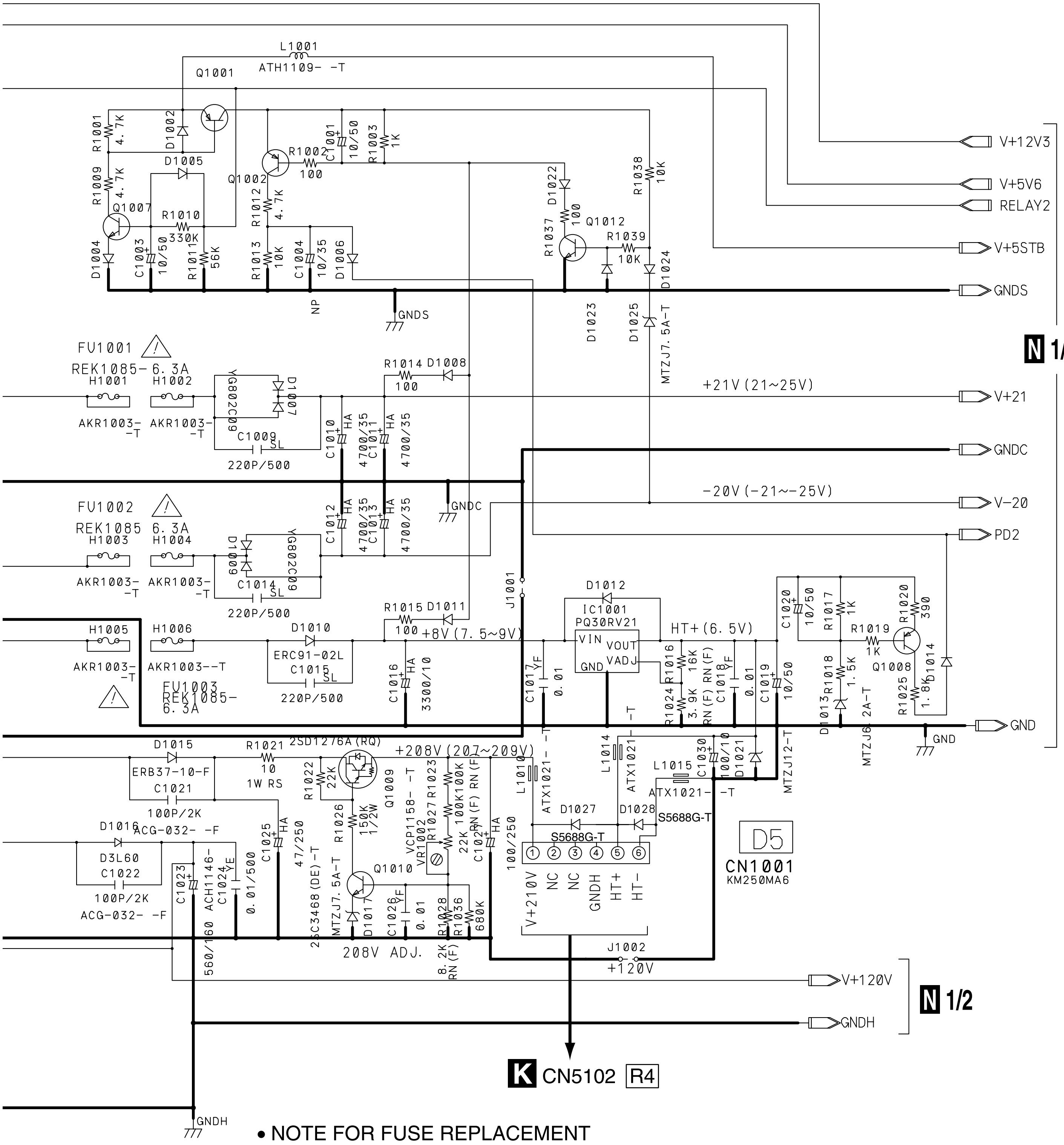
1SS133-T

TRANSISTOR

2SA933S(RS)-T

2SC1740S(RS)-T

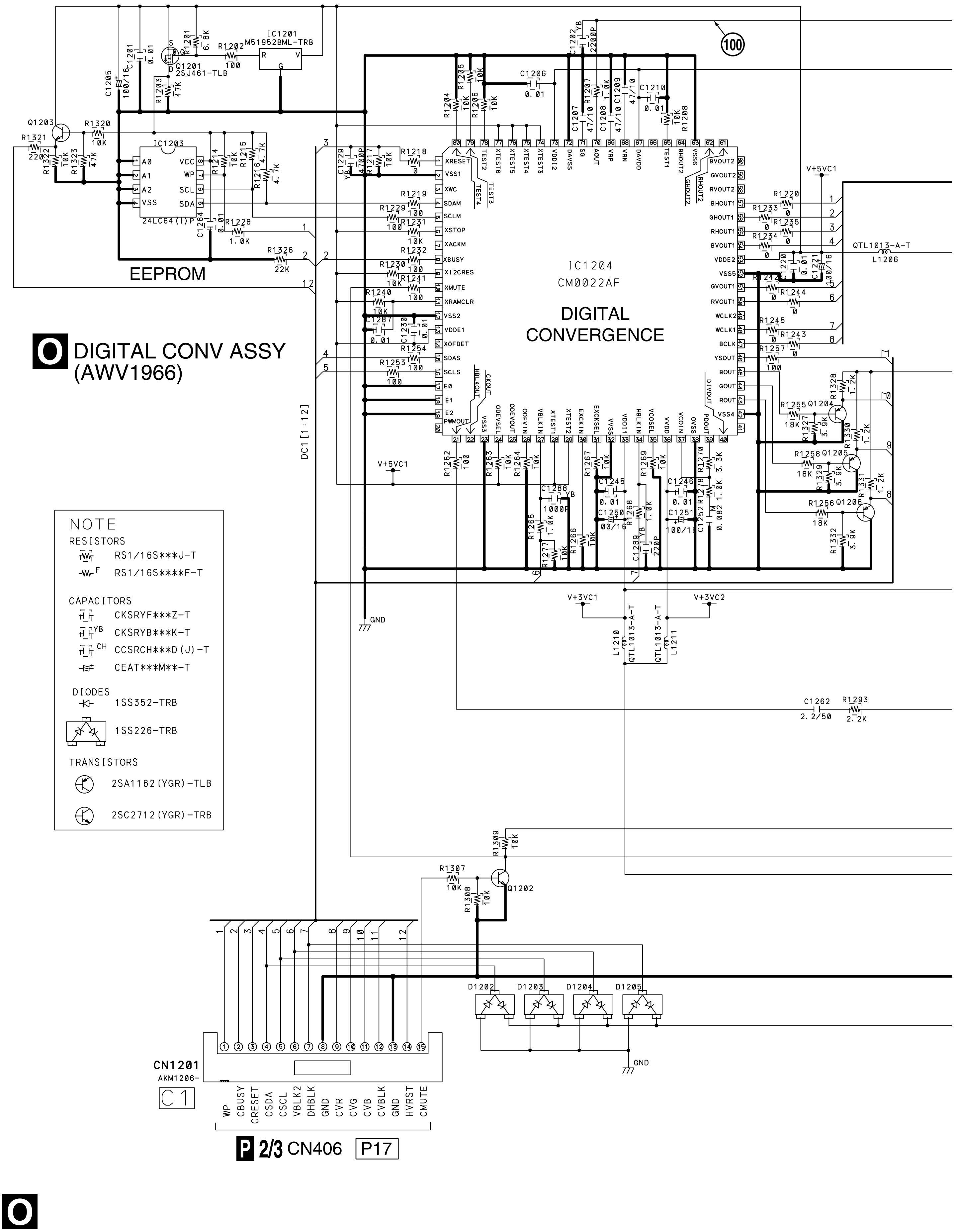
N 2/2 DEFLECTION SERVICE ASSY (AWV1967)
• POWER SUPPLY BLOCK


L1001
ATH1109- -T
Q1001
R1001 4.7K
D1002
D1005
R1009 4.7K
Q1007
R1010 330K
R1011 56K
C1003 10/50
D1004
Q1002
R1002 100
C1001 10/50
R1003 1K
R1012 4.7K
R1013 10K
C1004 10/35
NP
D1006
GNDS
D1022
R1037 100
Q1012
R1038 10K
R1039 10K
D1023
D1024
D1025
MTZJ7.5A-T
V+12V3
V+5V6
RELAY2
V+5STB
GNDS
N 1/2
FU1001
REK1085-6.3A
H1001
H1002
AKR1003- -T
AKR1003- -T
YG802C09
D1007
C1009 SL
220P/500
R1014 100
D1008
C1010 HA 4700/35
C1011 HA 4700/35
+21V(21~25V)
V+21
GNDC
GNDC
FU1002
REK1085 6.3A
H1003
H1004
D1009
YG802C09
C1014 SL
220P/500
C1012 HA 4700/35
C1013 HA 4700/35
-20V(-21~-25V)
V-20
PD2
H1005
H1006
AKR1003- -T
AKR1003--T
FU1003
REK1085-6.3A
D1010
ERC91-02L
C1015 SL
220P/500
R1015 100
D1011
+8V(7.5~9V)
J1001
C1016 HA 3300/10
C1017 YF 0.01
D1012
IC1001
PQ30RV21
VIN
VOUT
GND
VADJ
HT+(6.5V)
R1016 16K RN(F)
R1024 3.9K RN(F)
C1018 YF 0.01
C1019 10/50
C1020 10/50
R1017 1K
R1018 1.5K
D1013
MTZJ6.2A-T
R1019 1K
R1020 390
Q1008
R1025 1.8K
D1014
GND
GND
D1015
ERB37-10-F
C1021
100P/2K
R1021 10 1W RS
2SD1276A(RQ)
R1022 22K
Q1009
+208V(207~209V)
R1026 150K 1/2W
R1023 100K RN(F)
VCP1158- -T
VR1002
R1027 22K RN(F)
C1027 HA 100/250
L1010 ATX1021- -T
L1014 ATX1021- -T
L1015 ATX1021- -T
C1030 100/10
D1021
MTZJ12-T
D1027
D1028
S5688G-T
S5688G-T
① ② ③ ④ ⑤ ⑥
V+210V NC NC GNDH HT+ HT-
D5
CN1001
KM250MA6
D1016
ACG-032- -F
D3L60
C1022
100P/2K
ACG-032- -F
C1023 560/160
ACH1146-
C1024 YE 0.01/500
C1025 HA 47/250
2SC3468(DE)-T
MTZJ7.5A-T
Q1010
D1017
C1026 YF 0.01
R1028 8.2K RN(F)
R1036 680K
208V ADJ.
J1002
+120V
V+120V
GNDH
N 1/2
GNDH
K CN5102 R4

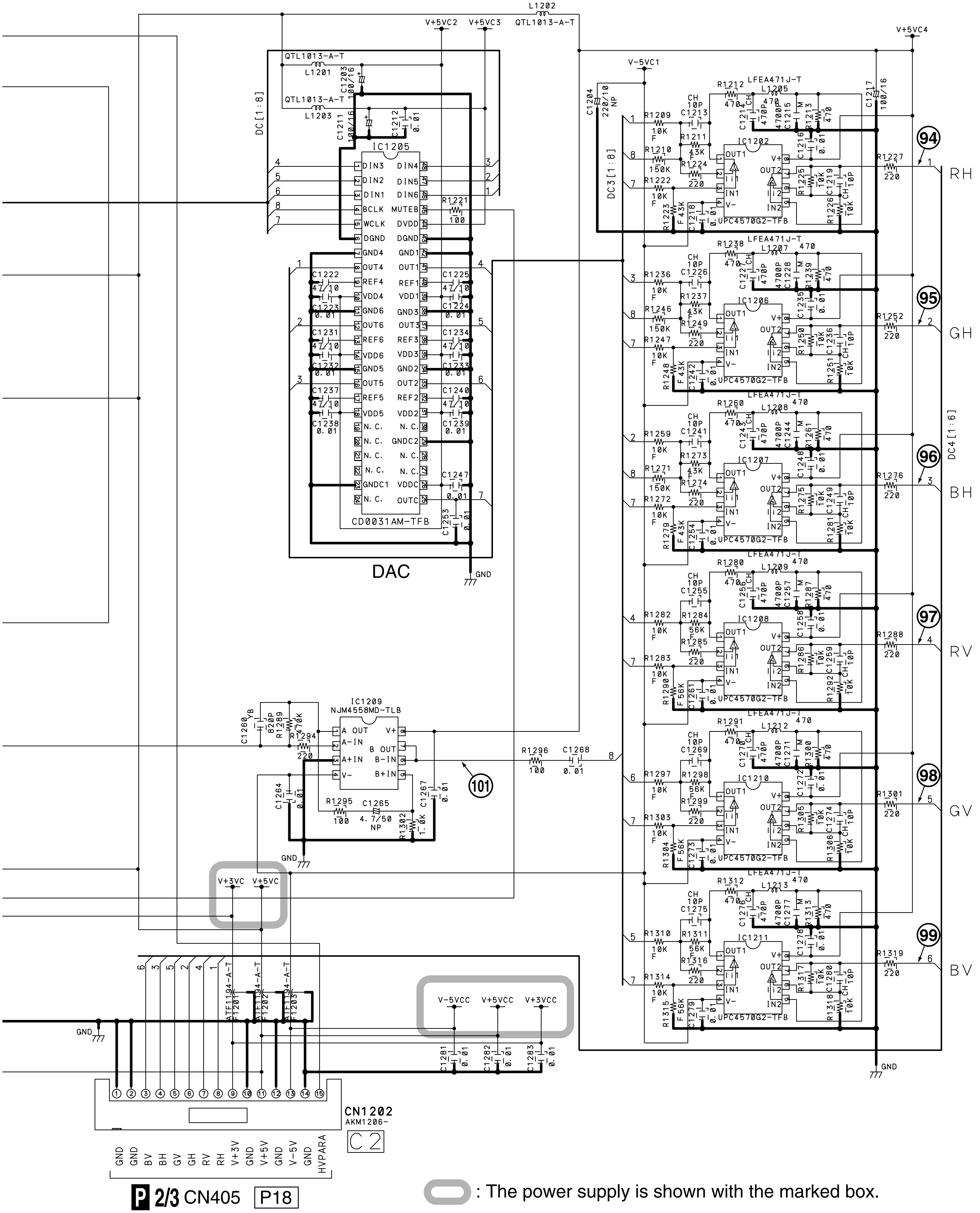
• NOTE FOR FUSE REPLACEMENT

CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.

3.20 DIGITAL CONV.ASSY


A
B
C
D
E
F
IC1201
M51952BML-TRB
Q1201
2SJ461-TLB
Q1203
IC1203
24LC64(I)P
EEPROM
A0
A1
A2
VSS
VCC
WP
SCL
SDA
IC1204
CM0022AF
DIGITAL
CONVERGENCE
O DIGITAL CONV ASSY
(AWV1966)
XRESET
VSS1
XWC
SDAM
SCLM
XSTOP
XACKM
XBUSY
XI2CRES
XMUTE
XRAMCLR
VSS2
VDDE1
XOFDET
SDAS
SCLS
E0
E1
E2
PWMOUT
BVOUT2
GVOUT2
RVOUT2
BHOUT1
GHOUT1
RHOUT1
BVOUT1
VDDE2
VSS5
GVOUT1
RVOUT1
WCLK2
WCLK1
BCLK
YSOUT
BOUT
GOUT
ROUT
VSS4
TEST2
XTEST6
XTEST5
XTEST4
XTEST3
VDDI2
DAVSS
SG
AOUT
VRP
VRN
DAVDD
TEST1
BHOUT2
VSS6
VSS3
ODEVSEL
ODEVOUT
ODEVIN
VBLKIN
XTEST1
XTEST2
EXCKIN
EXCKSEL
VSSI
VDDI1
HBLKIN
VCOSEL
VVDD
VCOIN
OVSS
PDOUT
DIVOUT
HBLKOUT
CKOUT
TEST3
TEST4
GHOUT2
RHOUT2
Q1202
Q1204
Q1205
Q1206
V+5VC1
V+3VC1
V+3VC2
QTL1013-A-T
L1206
L1210
L1211
C1262
2.2/50
R1293
2.2K
DC1[1:12]
GND
100
D1202
D1203
D1204
D1205
CN1201
AKM1206-
C1
WP
CBUSY
CRESET
CSDA
CSCL
VBLK2
DHBLK
GND
CVR
CVG
CVB
CVBLK
GND
HVRST
CMUTE
P 2/3 CN406 P17
NOTE
RESISTORS
RS1/16S***J-T
RS1/16S****F-T
CAPACITORS
CKSRYF***Z-T
CKSRYB***K-T
CCSRCH***D(J)-T
CEAT***M**-T
DIODES
1SS352-TRB
1SS226-TRB
TRANSISTORS
2SA1162(YGR)-TLB
2SC2712(YGR)-TRB

O


A
B
C
D
E
F
L1202
QTL1013-A-T
V+5VC2
V+5VC3
V+5VC4
V-5VC1
QTL1013-A-T
L1201
L1203
C1203 100/16
C1211 100/16
C1212 0.01
DC[1:8]
IC1205
DIN3
DIN2
DIN1
BCLK
WCLK
DGND
GND4
OUT4
REF4
VDD4
GND6
OUT6
REF6
VDD6
GND5
OUT5
REF5
VDD5
N.C.
GNDC1
DIN4
DIN5
DIN6
MUTEB
DVDD
DGND
GND1
OUT1
REF1
VDD1
GND3
OUT3
REF3
VDD3
GND2
OUT2
REF2
VDD2
GNDC2
VDDC
OUTC
R1221 100
C1222 47/10
C1223 0.01
C1231 47/10
C1232 0.01
C1237 47/10
C1238 0.01
C1225 47/10
C1224 0.01
C1234 47/10
C1233 0.01
C1240 47/10
C1239 0.01
C1247 0.01
C1253 0.01
CD0031AM-TFB
DAC
GND
C1204 220/10 NP
DC3[1:8]
C1217 100/16
DC4[1:6]
LFEA471J-T
L1205
L1207
L1208
L1209
L1212
L1213
IC1202
IC1206
IC1207
IC1208
IC1210
IC1211
UPC4570G2-TFB
OUT1
OUT2
IN1
IN2
V+
V-
94
95
96
97
98
99
RH
GH
BH
RV
GV
BV
R1227 220
R1252 220
R1276 220
R1288 220
R1301 220
R1319 220
IC1209
NJM4558MD-TLB
A OUT
A-IN
A+IN
B OUT
B-IN
B+IN
C1260 820P
R1289 470K
R1294 220
R1295 100
C1265 4.7/50 NP
C1264 0.01
C1267 0.01
R1302 1.0K
R1296 100
C1268 0.01
101
V+3VC
V+5VC
V-5VCC
V+5VCC
V+3VCC
C1281 0.01
C1282 0.01
C1283 0.01
ATF1194-A-T
F1201
F1202
F1203
CN1202
AKM1206-
C2
GND
GND
BV
BH
GV
GH
RV
RH
V+3V
GND
V+5V
GND
V-5V
GND
HVPARA
P 2/3 CN405 P18

: The power supply is shown with the marked box.

WAVEFORMS and VOLTAGES

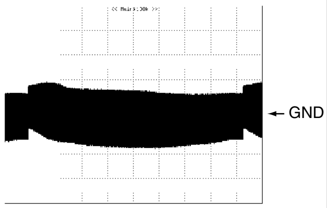
Note : The encircled numbers denote measuring point in the schematic diagram.

O DIGITAL CONV. ASSY

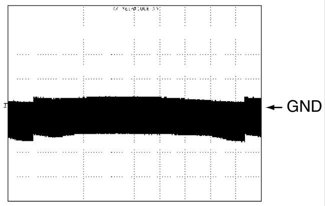
- **Input signal**

Input : INPUT 1 (COMPOSITE)
Video Signal : EIA color-bar

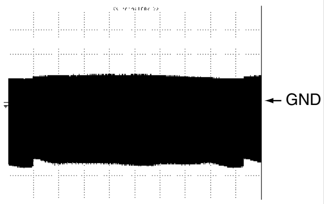
(94) **Foot of R1227 (RH)**
V: 0.5V/div. H: 2msec/div.



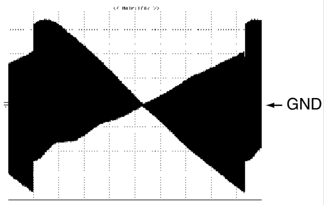
(95) **Foot of R1252 (GH)**
V: 0.5V/div. H: 2msec/div.



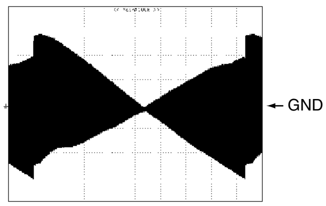
(96) **Foot of R1276 (BH)**
V: 0.5V/div. H: 2msec/div.



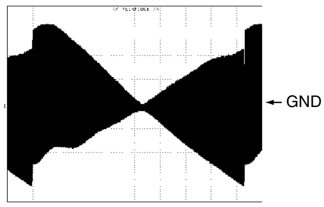
(97) **Foot of R1288 (RV)**
V: 0.5V/div. H: 2msec/div.



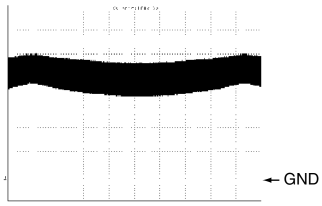
(98) **Foot of R1301 (GV)**
V: 0.5V/div. H: 2msec/div.



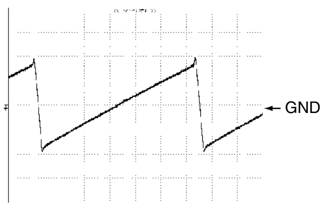
(99) **Foot of R1319 (BV)**
V: 0.5V/div. H: 2msec/div.



(100) **Foot of R1207 (HVPARA)**
V: 0.5V/div. H: 2msec/div.



(101) **IC1209 - pin 6, 7**
V: 0.5V/div. H: 5µsec/div.



IC1204 (CM0022AF)

No	Voltage (V)	No	Voltage (V)
1	4.8	41	0
2	0	42	0
3	0	43	0
4	4.9	44	0
5	4.9	45	0
6	4.9	46	0
7	4.9	47	0-5
8	4.9	48	0-5
9	4.9	49	0
10	4.9	50	0-5
11	4.9	51	0-5
12	0	52	0
13	4.9	53	4.9
14	0	54	0-5
15	4.9	55	0-5
16	4.9	56	0-5
17	0	57	0-5
18	0	58	0
19	0	59	0
20	0	60	0
21	0-5	61	0
22	0	62	0
23	0	63	0
24	0	64	0
25	0	65	0
26	0	66	0
27	0-5	67	3.2
28	3.1	68	1.3
29	0	69	1.8
30	0	70	2.0
31	0	71	1.6
32	0	72	0
33	3.2	73	3.2
34	0-5	74	0
35	0	75	3.1
36	3.2	76	3.1
37	0	77	3.1
38	0	78	0
39	1.2	79	0
40	2.1	80	0

IC1205 (CD0031AM)

No	Voltage (V)
1	0-5
2	0-5
3	0-5
4	0-5
5	0-5
6	0
7	0
8	2.6
9	3.4
10	4.9
11	0
12	2.5
13	3.4
14	4.9
15	0
16	2.5
17	3.4
18	4.9
19	0
20	0
21	0
22	0
23	0
24	0
25	2.5
26	4.9
27	0
28	0
29	0
30	0
31	4.9
32	3.4
33	2.5
34	0
35	4.9
36	3.4
37	2.5
38	0
39	4.9
40	3.4
41	2.5
42	0
43	0
44	4.9
45	4.9
46	0-5
47	0-5
48	0-5

IC1202 (UPC4570G2)

No	Voltage (V)
1	-0.4
2	2.0
3	2.0
4	-5.0
5	-0.2
6	-0.2
7	-0.4
8	4.9

IC1209 (NJM4558MD)

No	Voltage (V)
1	0
2	0
3	0
4	-5.0
5	0
6	0
7	0
8	4.9

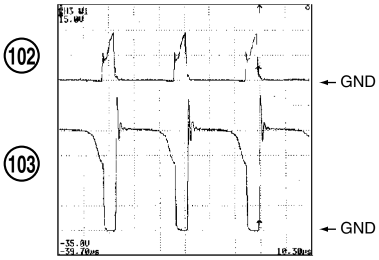
IC1206-IC1208, IC1210, IC1211 (UPC4570G2)

No	Voltage (V)
1	0
2	2.0
3	2.0
4	-5.0
5	0
6	0
7	0
8	4.9

P 1/3 POWER SUPPLY ASSY

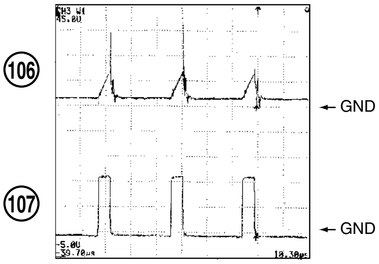
(102) **Q201 Gate**
V: 5V/div. H: 5µsec/div.

(103) **Q201 Drain**
V: 50V/div. H: 5µsec/div.



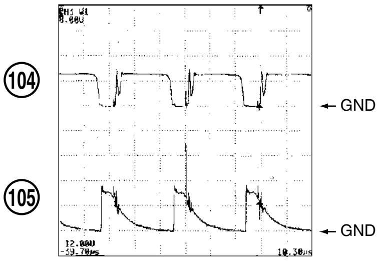
(106) **IC201 - pin 3**
V: 0.5V/div. H: 5µsec/div.

(107) **IC201 - pin 6**
V: 5V/div. H: 5µsec/div.

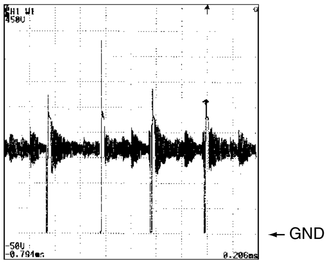


(104) **IC201 - pin 1**
V: 2V/div. H: 5µsec/div.

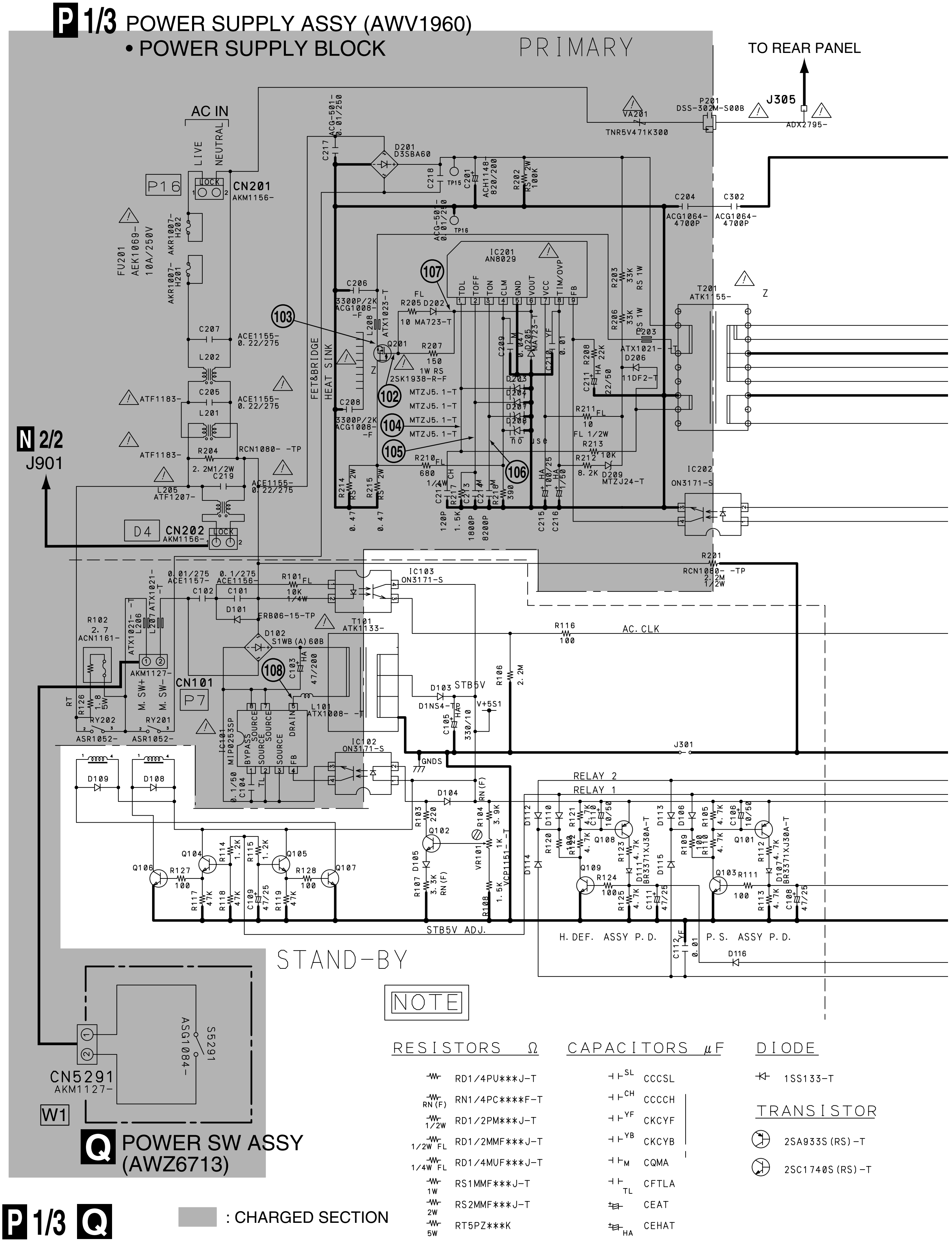
(105) **IC201 - pin 2**
V: 0.5V/div. H: 5µsec/div.



(108) **IC101 - pin 5**
V: 50V/div. H: 100µsec/div.

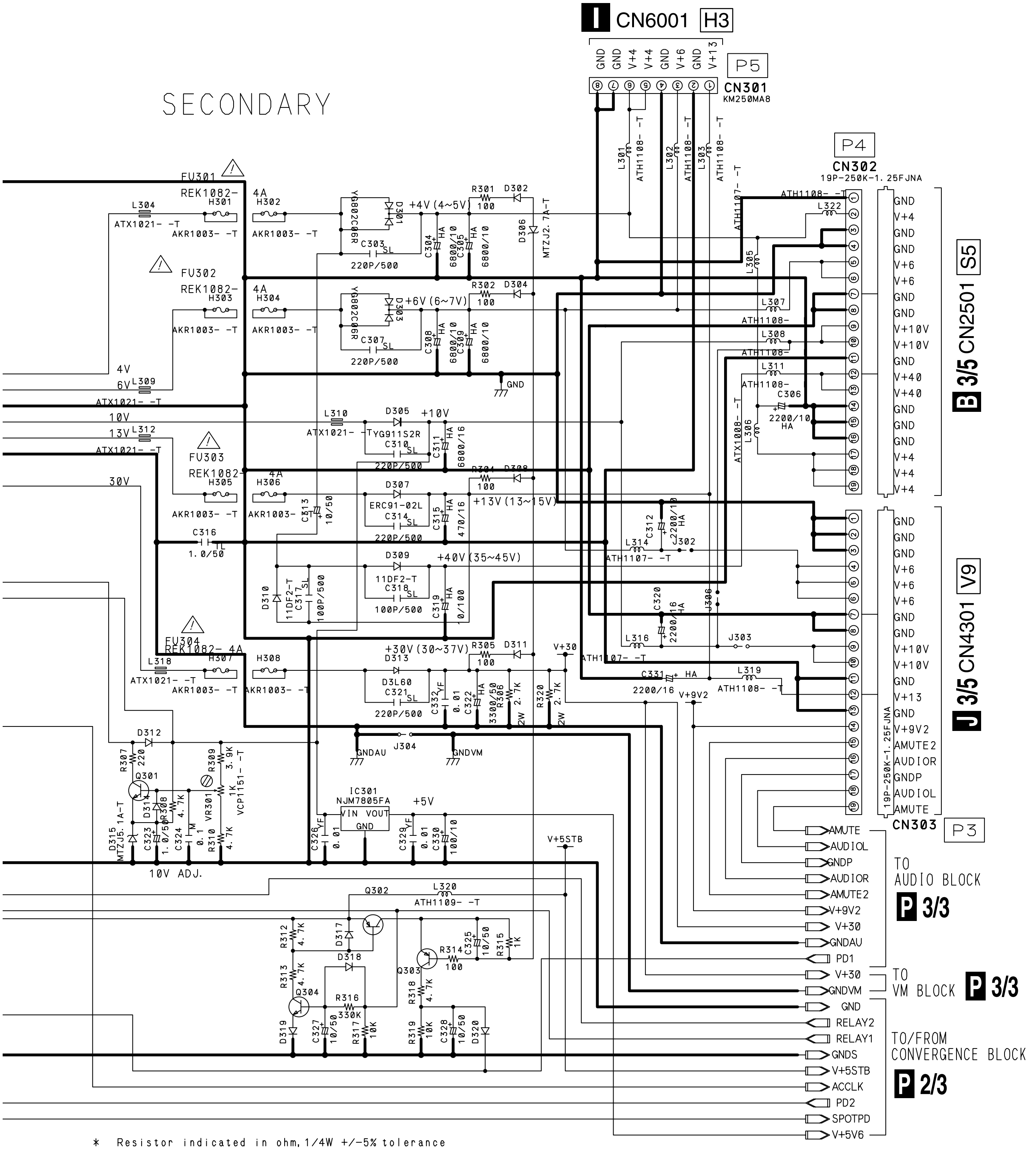


3.21 POWER SUPPLY ASSY (1/3)


P 1/3 POWER SUPPLY ASSY (AWV1960)
• POWER SUPPLY BLOCK
PRIMARY
TO REAR PANEL
J305
P201 DSS-302M-S00B
ADX2795-
VA201 TNR5V471K300
AC IN
LIVE
NEUTRAL
P16
CN201 AKM1156-
LOCK
FU201 AEK1069- 10A/250V
AKR1007- H202
AKR1007- H201
C217 ACG-501- 0.01/250
D201 D3SBA60
C218
TP15
C201 ACH1148- 820/200
R202 RS 2W 100K
ACG-501- 0.01/250
TP16
C204 ACG1064- 4700P
C302 ACG1064- 4700P
IC201 AN8029
TDL TOFF TON CLM GND VOUT VCC TIM/OVP FB
R203 33K RS 1W
R206 33K RS 1W
T201 ATK1155-
Z
C207 ACE1155- 0.22/275
L202
C205 ACE1155- 0.22/275
L201
ATF1183-
ATF1183-
C206 3300P/2K ACG1008- -F
C208 3300P/2K ACG1008- -F
L208 ATX1023-T
FET&BRIDGE HEAT SINK
Q201 2SK1938-R-F
R205 10 FL
D202 MA723-T
R207 150 1W RS
C209 0.047
D205 MA723-T
C210 YF 0.01
R208 HA 22K
C211 22/50
L203 ATX1021-T
D206 11DF2-T
D203 D204 D207 D208
MTZJ5.1-T
no use
R211 FL 10
FL 1/2W R213
R212 8.2K
10K D209 MTZJ24-T
IC202 ON3171-S
103 102 104 105 106 107 108
N 2/2 J901
R204 2.2M1/2W RCN1080- -TP
C219 ACE1155- 0.22/275
L205 ATF1207-
D4 CN202 AKM1156- LOCK
R214 RS 2W 0.47
R215 RS 2W 0.47
R210 FL 680 1/4W
C212 CH 120P
R217 1.5K
C213 1800P
C214 M 8200P
R218 M 390
C215 HA 100/25
C216 HA 1/50
R201 RCN1080- -TP 2.2M 1/2W
0.01/275 ACE1157- C102
0.1/275 ACE1156- C101
R101 FL 10K 1/4W
D101 ERB06-15-TP
IC103 ON3171-S
T101 ATK1133-
R102 2.7 ACN1161-
L206 ATX1021-T
L207 ATX1021-T
D102 S1WB(A)60B
C103 HA 47/200
AKM1127-
CN101 P7
M. SW+ M. SW-
RT R126 1.8 5W
RY202 ASR1052-
RY201 ASR1052-
IC101 MIP0253SP
BYPASS SOURCE SOURCE SOURCE DRAIN FB
L101 ATX1008-T
C104 TL 0.1/50
IC102 ON3171-S
D103 D1NS4-T
STB5V
V+5S1
C105 HAP 330/10
GNDS
R116 100
AC.CLK
R106 2.2M
J301
RELAY 2
RELAY 1
D109 D108
D104
R103 220
Q102
R104 RN(F) 3.9K
VR101 1K VCP1151-T
R107 3.3K RN(F)
D105
R108 1.5K
Q104 Q105 Q106 Q107
R114 1.2K
R115 1.2K
R127 100
R128 100
R117 47K R118 47K R119 47K
C109 47/25
D112 D110 D114
R120 100
R122 4.7K
R121 4.7K
C110 10/50
Q108 Q109
R123 4.7K
D111 BR3371XJ30A-T
D113 D115 D106
R124 100
R125 4.7K
C111 47/25
R109 100
R110 4.7K
R105 4.7K
C106 10/50
Q101 Q103
R112 4.7K
D107 BR3371XJ30A-T
R111 100
R113 4.7K
C108 47/25
STB5V ADJ.
H.DEF. ASSY P.D.
P.S. ASSY P.D.
C112 YF 0.01
D116
STAND-BY
NOTE
S5291 ASG1084-
CN5291 AKM1127-
W1
Q POWER SW ASSY (AWZ6713)
RESISTORS Ω
RD1/4PU***J-T
RN(F) RN1/4PC****F-T
1/2W RD1/2PM***J-T
1/2W FL RD1/2MMF***J-T
1/4W FL RD1/4MUF***J-T
1W RS1MMF***J-T
2W RS2MMF***J-T
5W RT5PZ***K
CAPACITORS μF
SL CCCSL
CH CCCCH
YF CKCYF
YB CKCYB
M CQMA
TL CFTLA
CEAT
HA CEHAT
DIODE
1SS133-T
TRANSISTOR
2SA933S(RS)-T
2SC1740S(RS)-T

P 1/3 **Q**

▨ : CHARGED SECTION


SECONDARY
I CN6001 H3
GND GND V+4 V+4 GND V+6 GND V+13
P5 CN301 KM250MA8
L301 ATH1108- -T
L302 ATH1108- -T
L303 ATH1108- -T
P4 CN302 19P-250K-1.25FJNA
FU301 REK1082- H301 4A H302
L304 ATX1021- -T
AKR1003- -T
D301 YG802C06R
+4V (4~5V)
R301 100 D302
D306 MTZJ2.7A-T
C303 SL 220P/500
C304 HA 6800/10 C305 HA 6800/10
FU302 REK1082- H303 4A H304
D303 YG802C06R
+6V (6~7V)
R302 100 D304
C307 SL 220P/500
C308 HA 6800/10 C309 HA 6800/10
GND
4V 6V L309 ATX1021- -T
10V 13V L312 ATX1021- -T
L310 ATX1021- -T
D305 YG911S2R +10V
C310 SL 220P/500
C311 HA 6800/16
FU303 REK1082- H305 4A H306
30V
R304 100 D308
D307 ERC91-02L
+13V (13~15V)
C313 10/50
C314 SL 220P/500
C315 HA 470/16
C316 1.0/50 TL
D309 11DF2-T +40V (35~45V)
D310 11DF2-T C317 SL 100P/500
C318 SL 100P/500
C319 HA 10/100
FU304 REK1082- 4A H307 H308
L318 ATX1021- -T
+30V (30~37V) D313 D3L60
R305 100 D311
C321 SL 220P/500
C332 YF 0.01
C322 HA 3300/50
R306 2.7K 2W
R320 2.7K 2W
V+30
GNDAU J304 GNDVM
D312
R307 220
Q301
D314 R308 4.7K
R309 3.9K
VR301 1K VCP1151- -T
D315 MTZJ5.1A-T
C323 1.0/50
C324 M 0.1
R310 4.7K
10V ADJ.
IC301 NJM7805FA VIN VOUT GND
+5V
C326 YF 0.01
C329 YF 0.01
C330 100/10
V+5STB
Q302 L320 ATH1109- -T
R312 4.7K
D317 D318
R313 4.7K Q304
R316 330K
D319 C327 10/50 R317 10K
Q303 R314 100
C325 10/50 R315 1K
R318 4.7K
R319 10K C328 10/50 D320
L322
L305 L307 ATH1108-
L308 ATH1108-
L311 ATH1108-
C306 2200/10 HA
L306 ATX1008- -T
ATH1107- -T
ATH1108- -T
GND V+4 GND GND V+6 V+6 GND GND V+10V V+10V GND V+40 V+40 GND GND GND V+4 V+4 V+4
B 3/5 CN2501 S5
L314 ATH1107- -T
C312 2200/10 HA
J302
C320 2200/16 HA
J306
L316 ATH1107- -T
J303
C331 HA 2200/16
V+9V2
L319 ATH1108- -T
GND GND GND V+6 V+6 V+6 GND GND V+10V V+10V GND V+13 GND V+9V2 AMUTE2 AUDIOR GNDP AUDIOL AMUTE
19P-250K-1.25FJNA
J 3/5 CN4301 V9
CN303 P3
AMUTE AUDIOL GNDP AUDIOR AMUTE2 V+9V2 V+30 GNDAU PD1
TO AUDIO BLOCK P 3/3
V+30 GNDVM GND
TO VM BLOCK P 3/3
RELAY2 RELAY1 GNDS V+5STB ACCLK PD2 SPOTPD V+5V6
TO/FROM CONVERGENCE BLOCK P 2/3

* Resistor indicated in ohm, 1/4W +/-5% tolerance
unless otherwise noted. k:k ohm, M:M ohm

* Capacitor indicated in Capacity(uF)/Voltage(V)
unless otherwise noted. p:pF
indication without voltage is 50V
except Electrolytic capacitor.

* The ⚠ mark found on same component parts indicates
the importance of the safety factor of the parts.
Therefore, when replacing, be sure to use parts of identical designation.

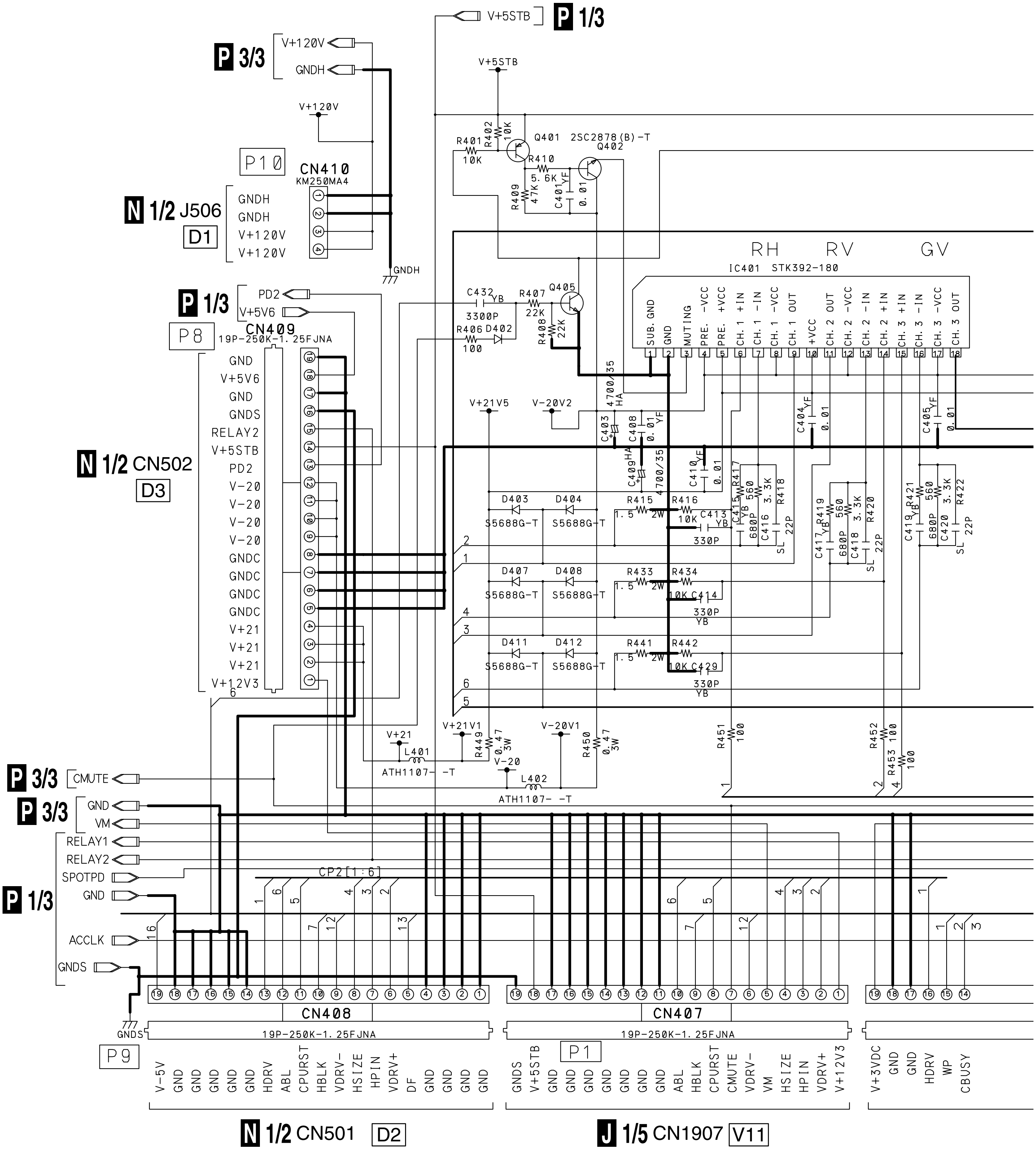
- NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.

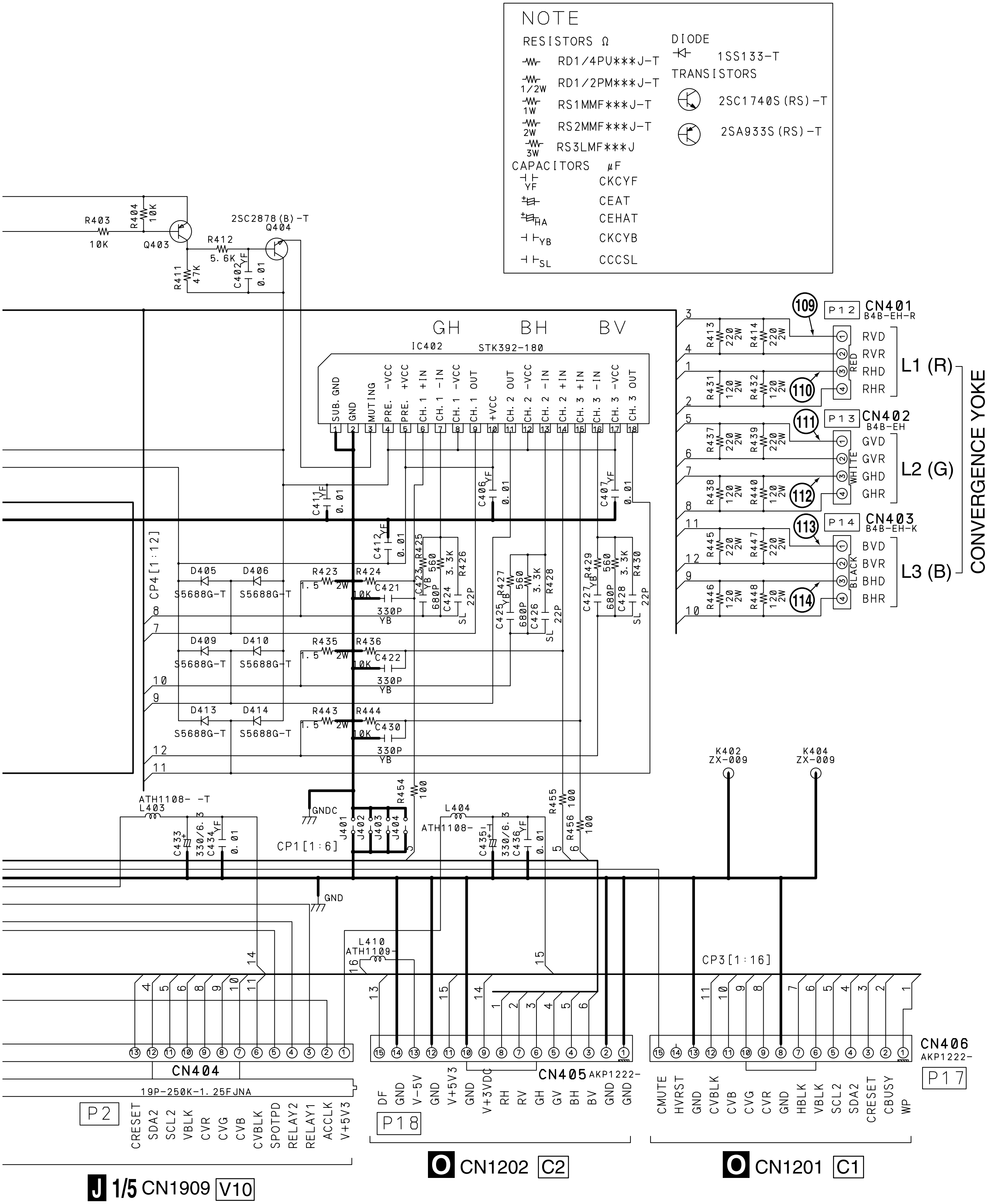
P 1/3

3.22 POWER SUPPLY ASSY (2/3)

P 2/3 POWER SUPPLY ASSY (AWV1960)
• CONVERGENCE BLOCK



V+5STB
P 1/3
P 3/3
V+120V
GNDH
V+5STB
V+120V
R402 10K
Q401 2SC2878(B)-T
Q402
R401 10K
R410 5.6K
R409 47K
C401 YF 0.01
P10
CN410
KM250MA4
N 1/2 J506
D1
GNDH
GNDH
V+120V
V+120V
GNDH
RH
RV
GV
IC401 STK392-180
SUB. GND
GND
MUTING
PRE. -VCC
PRE. +VCC
CH. 1 +IN
CH. 1 -VCC
CH. 1 -IN
CH. 1 OUT
+VCC
CH. 2 OUT
CH. 2 -VCC
CH. 2 -IN
CH. 2 +IN
CH. 3 +IN
CH. 3 -IN
CH. 3 -VCC
CH. 3 OUT
P 1/3
PD2
V+5V6
C432 YB 3300P
R407 22K
Q405
R406 100
D402
R408 22K
CN409
P8
19P-250K-1.25FJNA
GND
V+5V6
GND
GNDS
RELAY2
V+5STB
PD2
V-20
V-20
V-20
V-20
GNDC
GNDC
GNDC
GNDC
V+21
V+21
V+21
V+12V3
N 1/2 CN502
D3
V+21V5
V-20V2
C403 HA 4700/35
C408 0.01 YF
C409 HA 4700/35
C404 YF 0.01
C405 YF 0.01
C410 YF 0.01
D403
D404
S5688G-T
S5688G-T
R415 1.5 2W
R416 10K
C413 YB 330P
C415 YB 680P
R417 560
R418 3.3K
C416 SL 22P
C417 YB 680P
R419 560
R420 3.3K
C418 SL 22P
C419 YB 680P
R421 560
R422 3.3K
C420 SL 22P
D407
D408
S5688G-T
S5688G-T
R433 1.5 2W
R434 10K
C414 330P YB
D411
D412
S5688G-T
S5688G-T
R441 1.5 2W
R442 10K
C429 330P YB
V+21
L401
ATH1107- -T
V+21V1
R449 0.47 3W
V-20
V-20V1
R450 0.47 3W
L402
ATH1107- -T
R451 100
R452 100
R453 100
P 3/3
CMUTE
P 3/3
GND
VM
RELAY1
RELAY2
SPOTPD
P 1/3
GND
ACCLK
GNDS
CP2[1:6]
GNDS
CN408
19P-250K-1.25FJNA
P9
V-5V
GND
GND
GND
GND
GND
HDRV
ABL
CPURST
HBLK
VDRV-
HSIZE
HPIN
VDRV+
DF
GND
GND
GND
GND
CN407
19P-250K-1.25FJNA
P1
GNDS
V+5STB
GND
GND
GND
GND
GND
GND
GND
ABL
HBLK
CPURST
CMUTE
VDRV-
VM
HSIZE
HPIN
VDRV+
V+12V3
V+3VDC
GND
GND
HDRV
WP
CBUSY
N 1/2 CN501
D2
J 1/5 CN1907
V11


NOTE
RESISTORS Ω
RD1/4PU***J-T
1/2W RD1/2PM***J-T
1W RS1MMF***J-T
2W RS2MMF***J-T
3W RS3LMF***J
CAPACITORS μF
YF CKCYF
CEAT
HA CEHAT
YB CKCYB
SL CCCSL
DIODE
1SS133-T
TRANSISTORS
2SC1740S(RS)-T
2SA933S(RS)-T
R403 10K
R404 10K
Q403
R412 5.6K
2SC2878(B)-T
Q404
R411 47K
C402 YF 0.01
GH BH BV
IC402 STK392-180
SUB.GND
GND
MUTING
PRE. -VCC
PRE. +VCC
CH.1 +IN
CH.1 -IN
CH.1 -VCC
CH.1 OUT
+VCC
CH.2 OUT
CH.2 -VCC
CH.2 -IN
CH.2 +IN
CH.3 +IN
CH.3 -IN
CH.3 -VCC
CH.3 OUT
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
C411 YF 0.01
C406 YF 0.01
C407 YF 0.01
C412 YF 0.01
CP4[1:12]
D405 D406 S5688G-T S5688G-T
R423 1.5 2W
R424 10K
C421 330P YB
R425 560
C423 YB 680P
C424 3.3K
R426 22P SL
R427 560
C425 YB 680P
C426 3.3K
R428 22P SL
R429 560
C427 YB 680P
C428 3.3K
R430 22P SL
D409 D410 S5688G-T S5688G-T
R435 1.5 2W
R436 10K
C422 330P YB
D413 D414 S5688G-T S5688G-T
R443 1.5 2W
R444 10K
C430 330P YB
8 7 10 9 12 11
109 P12 CN401 B4B-EH-R
R413 220 2W
R414 220 2W
R431 120 2W
R432 120 2W
110
RVD RVR RHD RHR RED
L1 (R)
111 P13 CN402 B4B-EH
R437 220 2W
R439 220 2W
R438 120 2W
R440 120 2W
112
GVD GVR GHD GHR WHITE
L2 (G)
113 P14 CN403 B4B-EH-K
R445 220 2W
R447 220 2W
R446 120 2W
R448 120 2W
114
BVD BVR BHD BHR BLACK
L3 (B)
CONVERGENCE YOKE
3 4 1 2 5 6 7 8 11 12 9 10
K402 ZX-009
K404 ZX-009
ATH1108- -T
L403
C433 330/6.3
C434 YF 0.01
GNDC
J401 J402 J403 J404
R454 100
L404 ATH1108- -T
C435 330/6.3
C436 YF 0.01
R455 100
R456 100
CP1[1:6]
5 6
GND
L410 ATH1109-
16 14 15
CP3[1:16]
4 5 6 8 9 10 11
13 15 14 1 2 3 4 5 6
11 10 9 8 7 6 5 4 3 2 1
CN404
19P-250K-1.25FJNA
P2
CRESET SDA2 SCL2 VBLK CVR CVG CVB CVBLK SPOTPD RELAY2 RELAY1 ACCLK V+5V3
J 1/5 CN1909 V10
CN405 AKP1222-
P18
DF GND V-5V GND V+5V3 GND V+3VDC RH RV GH GV BH BV GND GND
O CN1202 C2
CN406 AKP1222-
P17
CMUTE HVRST GND CVBLK CVB CVG CVR GND HBLK VBLK SCL2 SDA2 CRESET CBUSY WP
O CN1201 C1
A B C D E F

WAVEFORMS and VOLTAGES

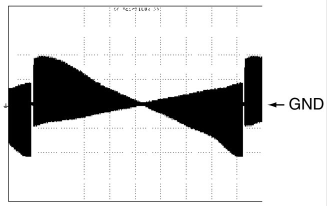
Note : The encircled numbers denote measuring point in the schematic diagram.

P 2/3 POWER SUPPLY ASSY

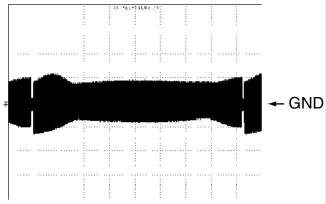
- **Input signal**

Input : INPUT 1 (COMPOSITE)
Video Signal : EIA color-bar

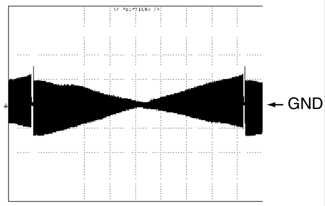
(109) **CN401 - pin 1 (RVD)**
V: 10V/div. H: 2msec/div.



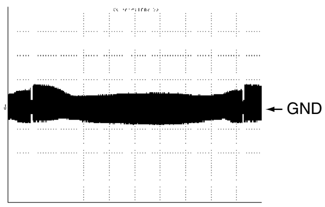
(110) **CN401 - pin 3 (RHD)**
V: 10V/div. H: 2msec/div.



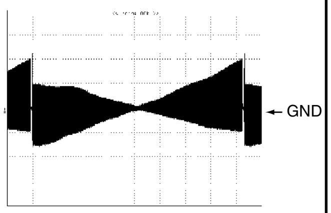
(111) **CN402 - pin 1 (GVD)**
V: 10V/div. H: 2msec/div.



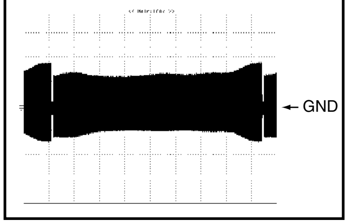
(112) **CN402 - pin 3 (GHD)**
V: 10V/div. H: 2msec/div.



(113) **CN403 - pin 1 (BVD)**
V: 10V/div. H: 2msec/div.



(114) **CN403 - pin 3 (BHD)**
V: 10V/div. H: 2msec/div.



IC401 (STK392-180)

No	Voltage (V)
1	0
2	0
3	-19.0
4	-20.2
5	22.0
6	-
7	-
8	-20.2
9	-
10	22.0
11	-
12	-20.2
13	-
14	-
15	-
16	-
17	-20.2
18	-

IC402 (STK392-180)

No	Voltage (V)
1	0
2	0
3	-19.0
4	-20.2
5	22.0
6	-
7	-
8	-20.2
9	-
10	22.0
11	-
12	-20.2
13	-
14	-
15	-
16	-
17	-20.2
18	-

A

B

C

D

E

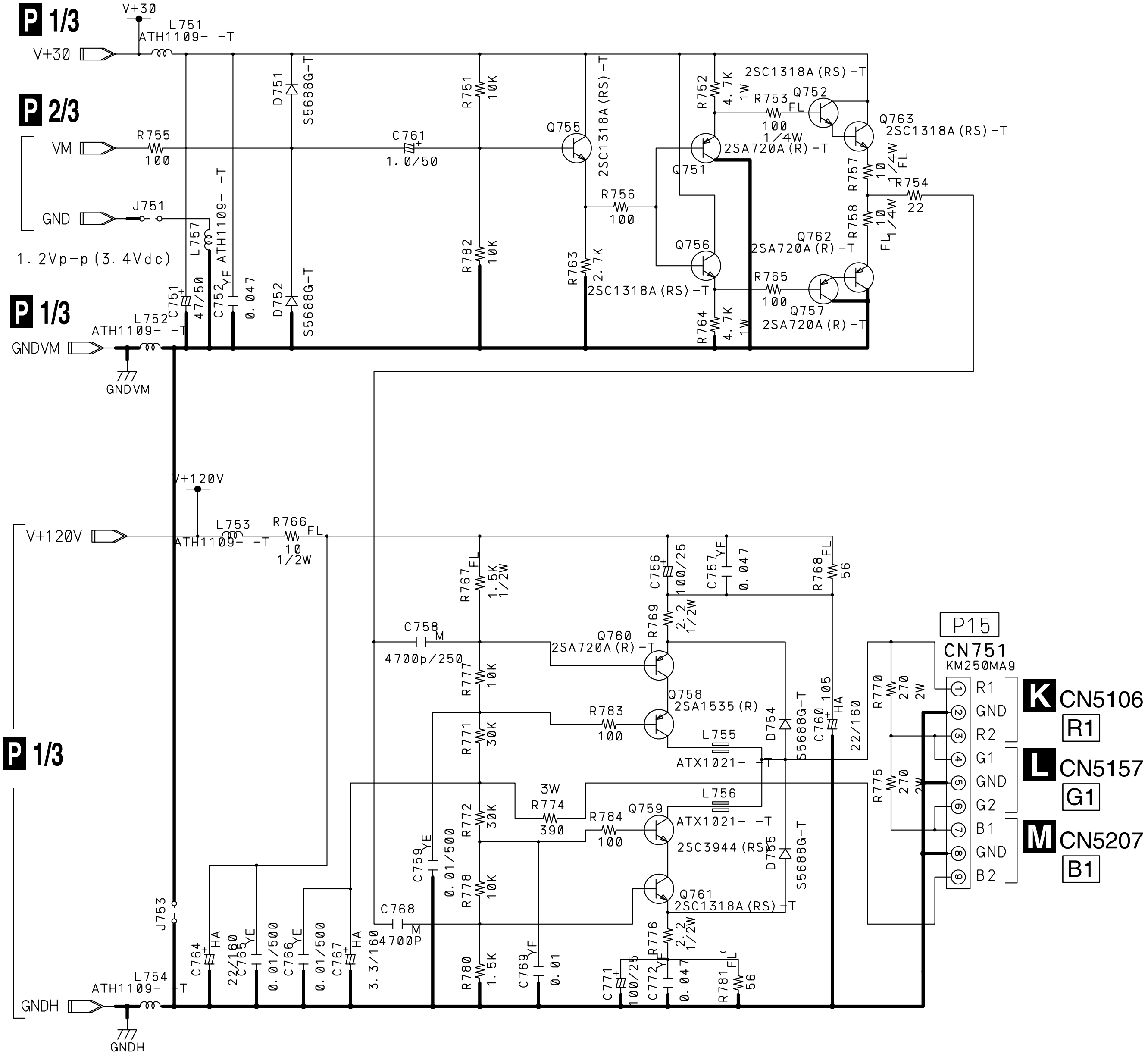
F

3.23 POWER SUPPLY ASSY (3/3)

P 3/3 POWER SUPPLY ASSY (AWV1960)

- SVM and AUDIO POWER BLOCKS

- **SVM BLOCK**


P 1/3
V+30
V+30
L751
ATH1109- -T
P 2/3
VM
R755
100
GND
J751
1. 2Vp-p (3. 4Vdc)
L757
ATH1109- -T
C751
47/50
C752 YF
0. 047
D751
S5688G-T
D752
S5688G-T
C761
1. 0/50
R751
10K
R782
10K
Q755
2SC1318A (RS) -T
R756
100
R763
2. 7K
2SC1318A (RS) -T
R752
4. 7K
1W
R753 FL
100
1/4W
Q752
2SC1318A (RS) -T
Q763
2SC1318A (RS) -T
Q751
2SA720A (R) -T
R757
10
1/4W FL
R754
22
R758
10
FL 1/4W
Q756
Q762
2SA720A (R) -T
R765
100
Q757
2SA720A (R) -T
R764
4. 7K
1W
P 1/3
L752
ATH1109- -T
GNDVM
GNDVM
V+120V
V+120V
L753
ATH1109- -T
R766 FL
10
1/2W
R767 FL
1. 5K
1/2W
C756
100/25
C757 YF
0. 047
R768 FL
56
C758 M
4700p/250
Q760
2SA720A (R) -T
R769
2. 2
1/2W
R777
10K
Q758
2SA1535 (R)
R783
100
L755
ATX1021- -T
D754
S5688G-T
C760
105
HA
22/160
R771
30K
R772
30K
3W
R774
390
R784
100
Q759
L756
ATX1021- -T
2SC3944 (RS)
D755
S5688G-T
C759 YE
0. 01/500
R778
10K
Q761
2SC1318A (RS) -T
R776
2. 2
1/2W
C768
M
4700P
P 1/3
J753
C764 HA
22/160
C765 YE
0. 01/500
C766 YE
0. 01/500
C767 HA
3. 3/160
R780
1. 5K
C769 YF
0. 01
C771
100/25
C772 YF
0. 047
R781 FL
56
L754
ATH1109- -T
GNDH
GNDH
R770
270
2W
R775
270
2W
P15
CN751
KM250MA9
① R1
② GND
③ R2
④ G1
⑤ GND
⑥ G2
⑦ B1
⑧ GND
⑨ B2
K CN5106
R1
L CN5157
G1
M CN5207
B1

NOTE

RESISTORS Ω

	RD1/4PU∗∗∗J-T
1/2W	RD1/2PM∗∗∗J-T
FL 1/4W	RD1/4MUF∗∗∗J-T
3W	RS3PMF∗∗∗J

CAPACITORS μF

YF	CKCYF	TL	CFTLA
YB	CKCYB		CEAT
M	CQMA	HA	CEHAT

TRANSISTOR

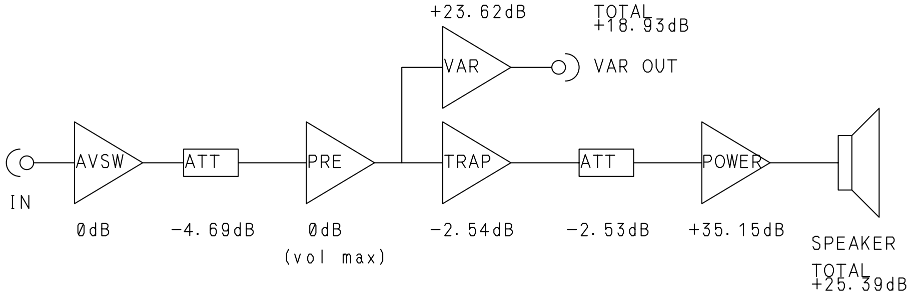
2SA933S (RS) -T

2SC1740S (RS) -T

DIODE

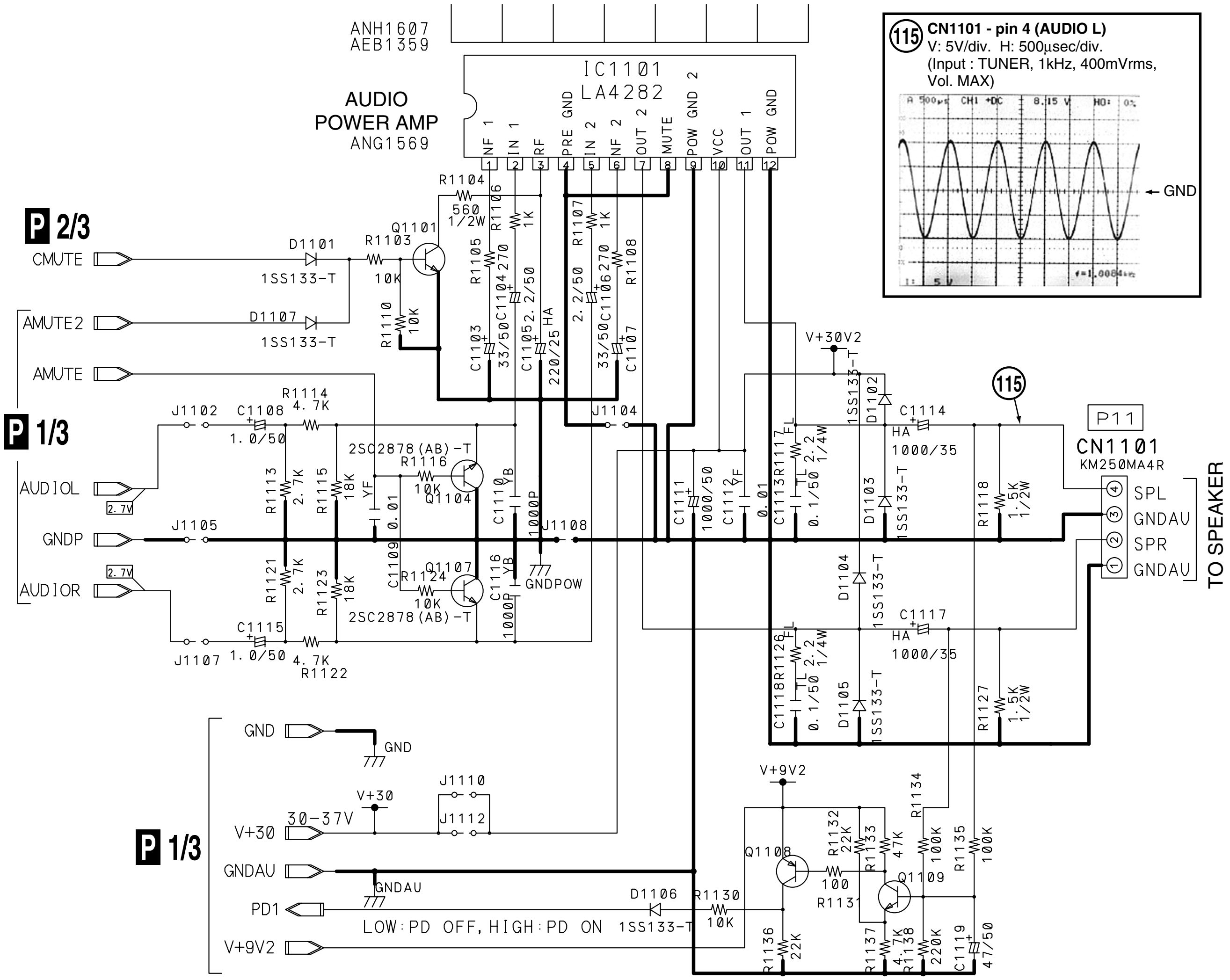
1SS133-T

• AUDIO POWER BLOCK


+23.62dB
TOTAL +18.93dB
VAR
VAR OUT
IN
AVSW
ATT
PRE
TRAP
ATT
POWER
0dB
-4.69dB
0dB (vol max)
-2.54dB
-2.53dB
+35.15dB
SPEAKER
TOTAL +25.39dB

IC1101 (LA4282)

No	Voltage (V)
1	1.1
2	0.7
3	17.2
4	0
5	0.7
6	1.1
7	17.2
8	0
9	0
10	34.9
11	17.2
12	0


ANH1607
AEB1359
IC1101
LA4282
AUDIO POWER AMP
ANG1569
NF 1
IN 1
RF
PRE GND
IN 2
NF 2
OUT 2
MUTE
POW GND 2
VCC
OUT 1
POW GND
P 2/3
CMUTE
AMUTE2
AMUTE
P 1/3
AUDIOL
GNDP
AUDIOR
2.7V
D1101 1SS133-T
D1107 1SS133-T
R1103 10K
Q1101
R1104 560 1/2W
R1106 1K
R1105 270
R1107 1K
R1108 270
R1110 10K
C1103 33/50
C1104 2.2/50
C1105 220/25 HA
C1106 2.2/50
C1107 33/50
J1102
J1104
J1105
J1107
J1108
C1108 1.0/50
C1115 1.0/50
R1114 4.7K
R1122 4.7K
R1113 2.7K
R1115 18K
R1121 2.7K
R1123 18K
2SC2878(AB)-T
R1116 10K
Q1104
Q1107
R1124 10K
C1109 0.01 YF
C1110 1000P YB
C1116 1000P YB
GNDPOW
V+30V2
D1102 1SS133-T
D1103 1SS133-T
D1104 1SS133-T
D1105 1SS133-T
C1111 1000/50
C1112 0.01 YF
C1113 0.1/50 TL
R1117 2.2 1/4W FL
C1118 0.1/50 TL
R1126 2.2 1/4W FL
C1114 1000/35 HA
C1117 1000/35 HA
R1118 1.5K 1/2W
R1127 1.5K 1/2W
115
P11
CN1101
KM250MA4R
4 SPL
3 GNDAU
2 SPR
1 GNDAU
TO SPEAKER
GND
V+30
30-37V
J1110
J1112
GNDAU
PD1
V+9V2
LOW:PD OFF, HIGH:PD ON
D1106 1SS133-T
R1130 10K
Q1108
Q1109
R1131 100
R1132 22K
R1133 47K
R1134 100K
R1135 100K
R1136 22K
R1137 4.7K
R1138 220K
C1119 47/50
GND

115 CN1101 - pin 4 (AUDIO L)
V: 5V/div. H: 500µsec/div.
(Input : TUNER, 1kHz, 400mVrms, Vol. MAX)

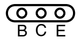
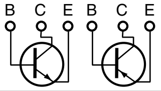
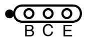
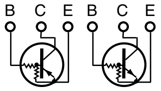
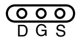
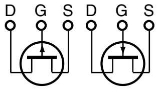
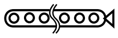
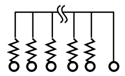
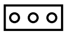
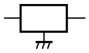
← GND
5 V
f=1.0084kHz

P 3/3

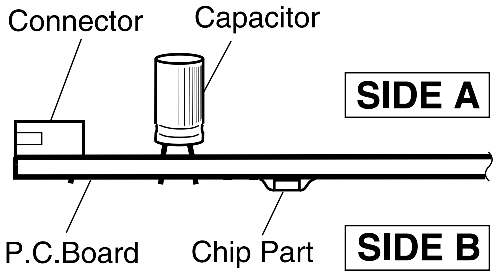
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

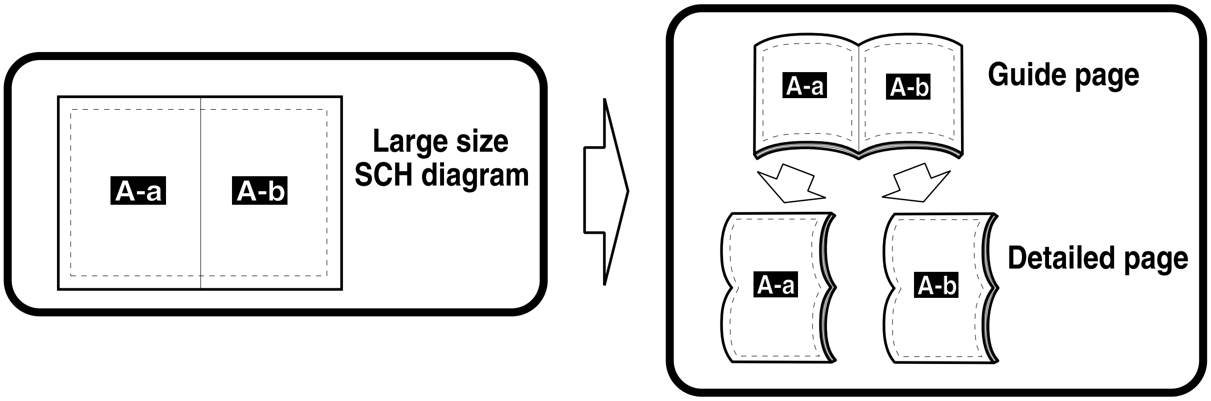
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

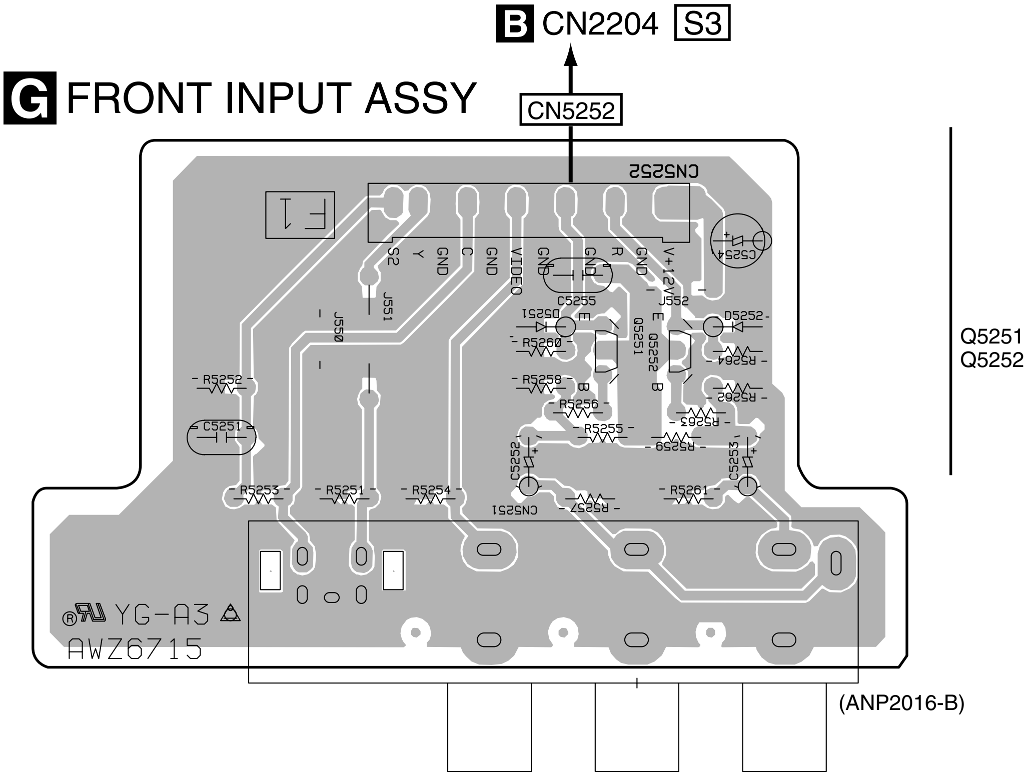

Connector
Capacitor
SIDE A
P.C.Board
Chip Part
SIDE B

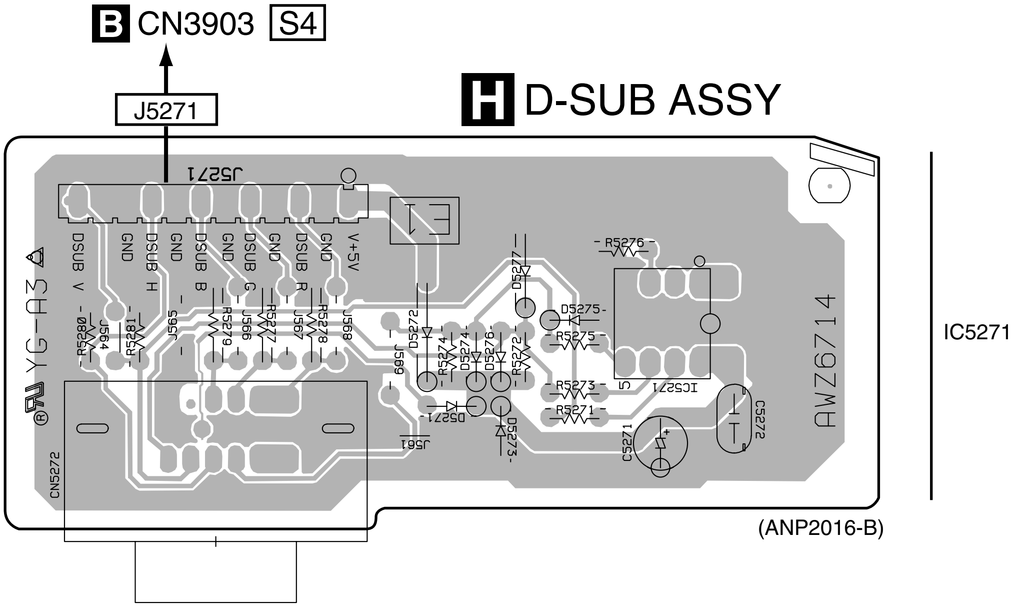
- **For DEFLECTION SERVICE and POWER SUPPLY ASSYS**


A-a
A-b
Large size SCH diagram
A-a
A-b
Guide page
A-a
A-b
Detailed page

4.1 FRONT INPUT and D-SUB ASSYS

SIDE A **SIDE A**

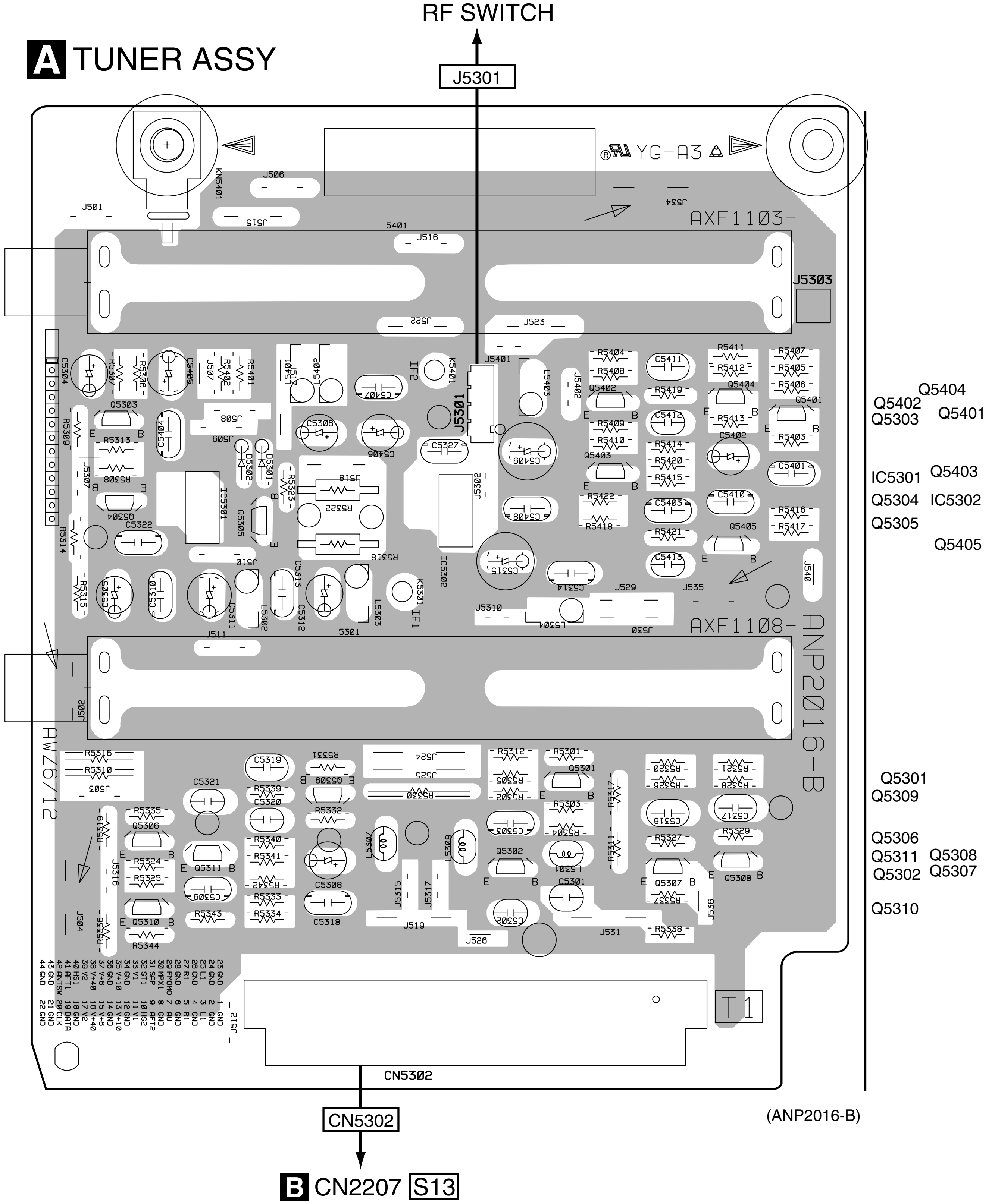

B CN2204 S3
CN5252
G FRONT INPUT ASSY
CN5252
F1
S2
Y
GND
C
GND
VIDEO
GND
GND
R
GND
V+12V
C5254
J551
J550
J552
C5255
D5251
D5252
Q5251
Q5252
E
B
R5260
R5264
R5258
R5262
R5256
R5263
R5255
R5259
R5252
C5251
C5252
C5253
R5253
R5251
R5254
CN5251
R5257
R5261
YG-A3
AWZ6715
(ANP2016-B)
Q5251
Q5252


B CN3903 S4
J5271
H D-SUB ASSY
J5271
F1
DSUB V
GND
DSUB H
GND
DSUB B
GND
DSUB G
GND
DSUB R
GND
V+5V
R5276
D5277
D5275
R5275
R5280
J564
R5281
J565
R5279
J566
R5277
J567
R5278
J568
J569
D5272
R5274
D5274
D5276
R5272
R5273
R5271
IC5271
D5271
D5273
C5271
C5272
J561
CN5272
YG-A3
AWZ6714
(ANP2016-B)
IC5271

4.2 TUNER ASSY

SIDE A **SIDE A**

A TUNER ASSY

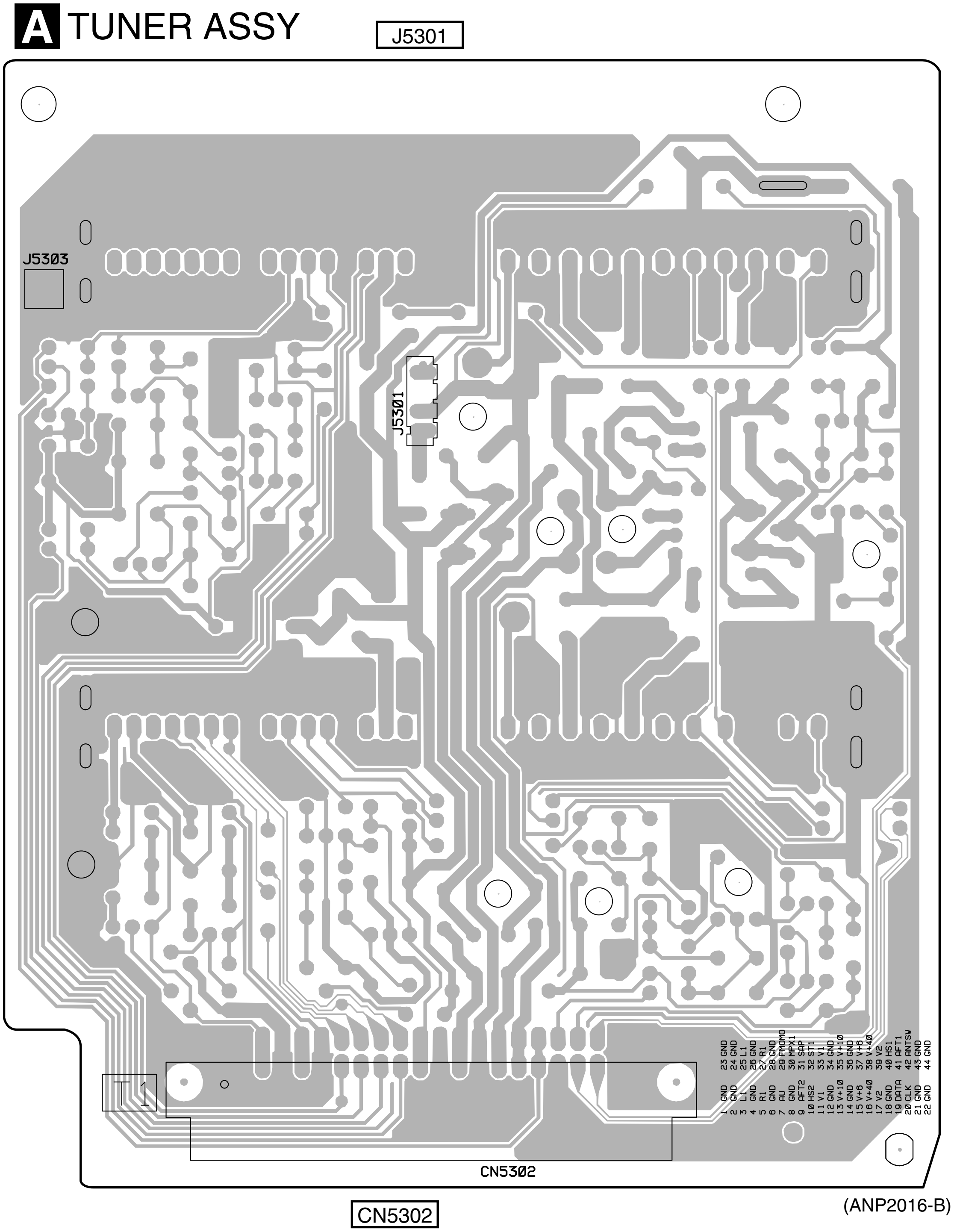

RF SWITCH
J5301
YG-A3
AXF1103-
AXF1108-
ANP2016-B
AWZ6712
J5303
T1
CN5302
B CN2207 S13
Q5404
Q5402
Q5401
Q5303
IC5301
Q5403
Q5304
IC5302
Q5305
Q5405
Q5301
Q5309
Q5306
Q5311
Q5308
Q5302
Q5307
Q5310

(ANP2016-B)

A **A**

SIDE B **SIDE B**

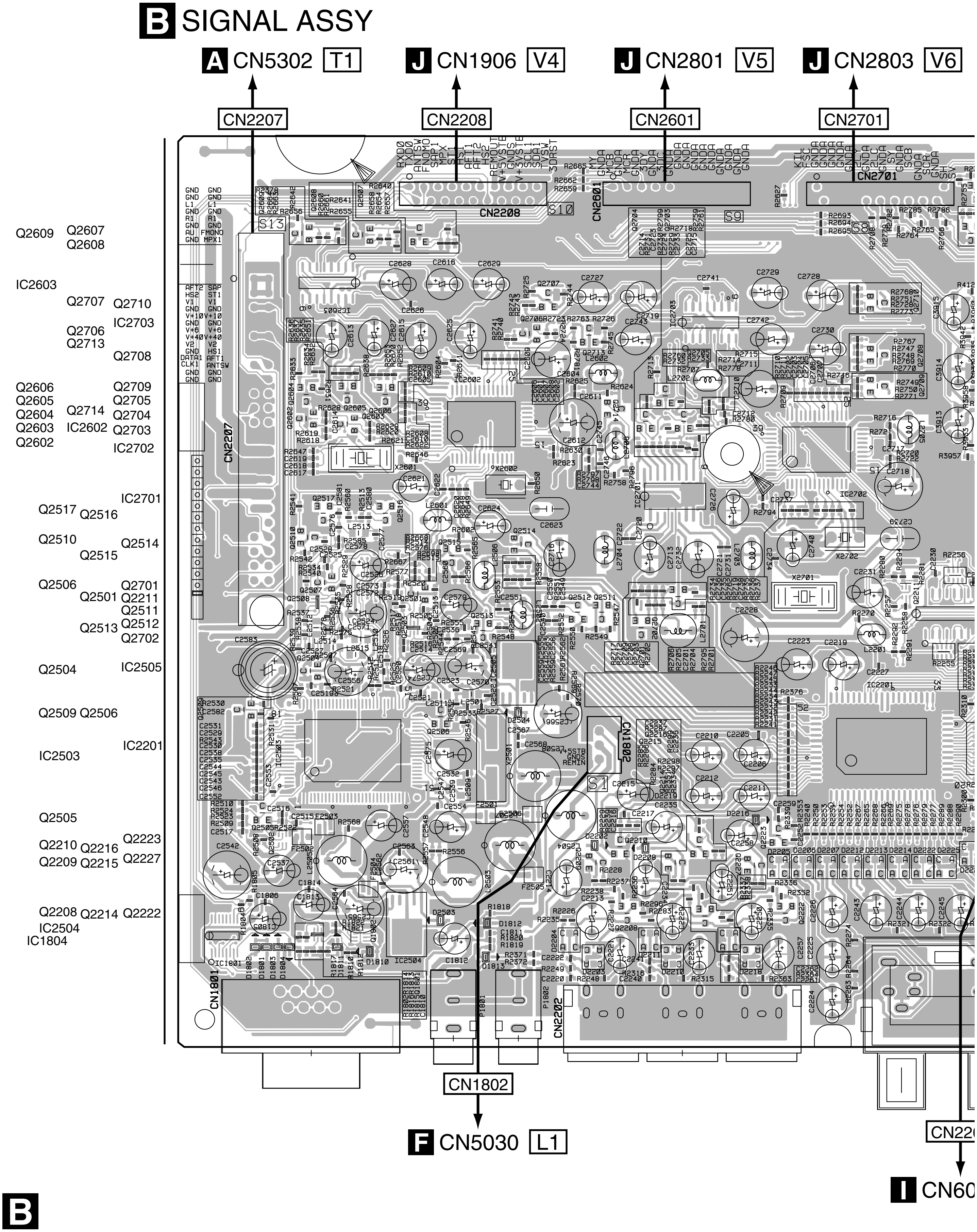
A TUNER ASSY


J5301
J5303
J5301
T1
CN5302
1 GND
2 GND
3 L1
4 GND
5 R1
6 GND
7 AU
8 GND
9 AFT2
10 HS2
11 V1
12 GND
13 V+10
14 GND
15 V+6
16 V+40
17 V2
18 GND
19 DATA
20 CLK
21 GND
22 GND
23 GND
24 GND
25 L1
26 GND
27 R1
28 GND
29 FMOMO
30 MPX1
31 SAP
32 ST1
33 V1
34 GND
35 V+10
36 GND
37 V+6
38 V+40
39 V2
40 HS1
41 AFT1
42 ANTSW
43 GND
44 GND
CN5302
(ANP2016-B)

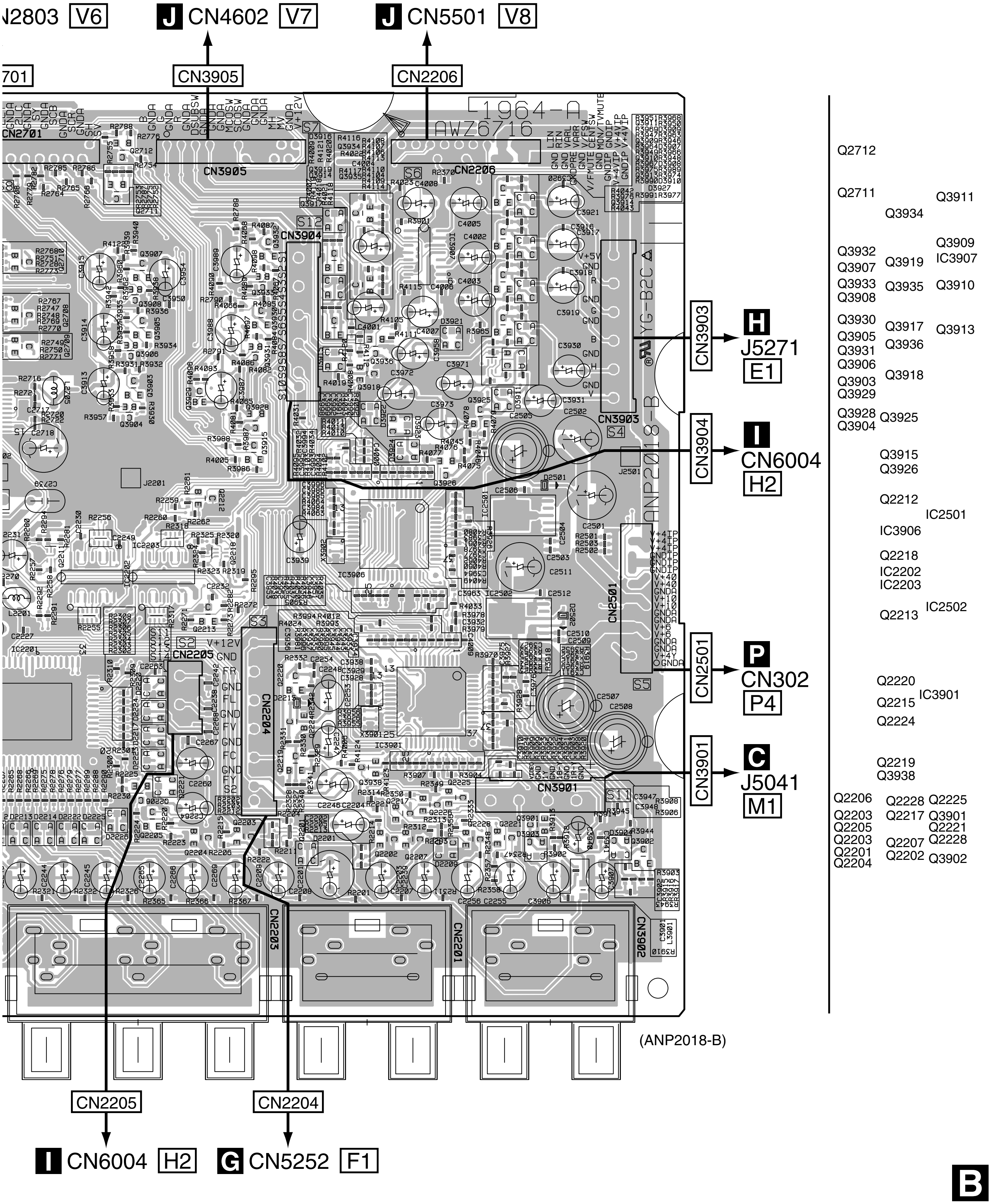
A **A**

4.3 SIGNAL ASSY

SIDE A


B SIGNAL ASSY
A CN5302 T1
J CN1906 V4
J CN2801 V5
J CN2803 V6
CN2207
CN2208
CN2601
CN2701
Q2609 Q2607
Q2608
IC2603
Q2707 Q2710
IC2703
Q2706
Q2713
Q2708
Q2606 Q2709
Q2605 Q2705
Q2604 Q2714 Q2704
Q2603 IC2602 Q2703
Q2602
IC2702
IC2701
Q2517 Q2516
Q2510 Q2514
Q2515
Q2506 Q2701
Q2501 Q2211
Q2511
Q2513 Q2512
Q2702
Q2504 IC2505
Q2509 Q2506
IC2201
IC2503
Q2505
Q2210 Q2216 Q2223
Q2209 Q2215 Q2227
Q2208 Q2214 Q2222
IC2504
IC1804
CN1801
CN1802
CN2202
F CN5030 L1
CN220
I CN60

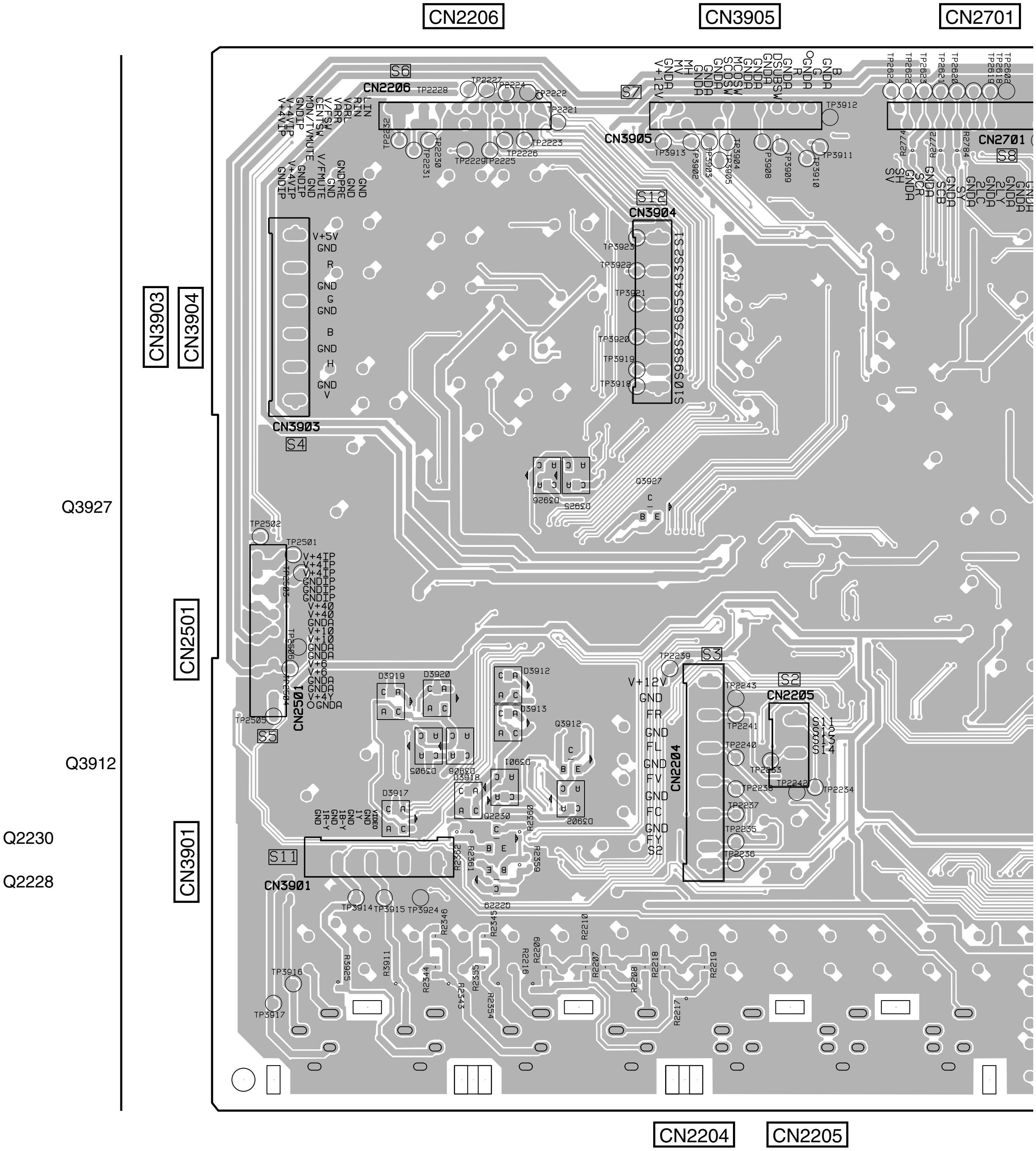
SIDE A



N2803 V6
J CN4602 V7
J CN5501 V8
701
CN3905
CN2206
1964-A
AWZ6716
CN2701
CN3904
CN3903
CN2205
CN2204
CN2203
CN2201
CN3902
CN3901
CN2501
CN3903 → H J5271 E1
CN3904 → I CN6004 H2
CN2501 → P CN302 P4
CN3901 → C J5041 M1
CN2205 → I CN6004 H2
CN2204 → G CN5252 F1
ANP2018-B
(ANP2018-B)
Q2712
Q2711
Q3911
Q3934
Q3932
Q3909
Q3907
Q3919
IC3907
Q3933
Q3935
Q3910
Q3908
Q3930
Q3917
Q3905
Q3913
Q3931
Q3936
Q3906
Q3903
Q3918
Q3929
Q3928
Q3925
Q3904
Q3915
Q3926
Q2212
IC2501
IC3906
Q2218
IC2202
IC2203
Q2213
IC2502
Q2220
Q2215
IC3901
Q2224
Q2219
Q3938
Q2206
Q2228
Q2225
Q2203
Q2217
Q3901
Q2205
Q2221
Q2203
Q2228
Q2207
Q2201
Q2202
Q3902
Q2204

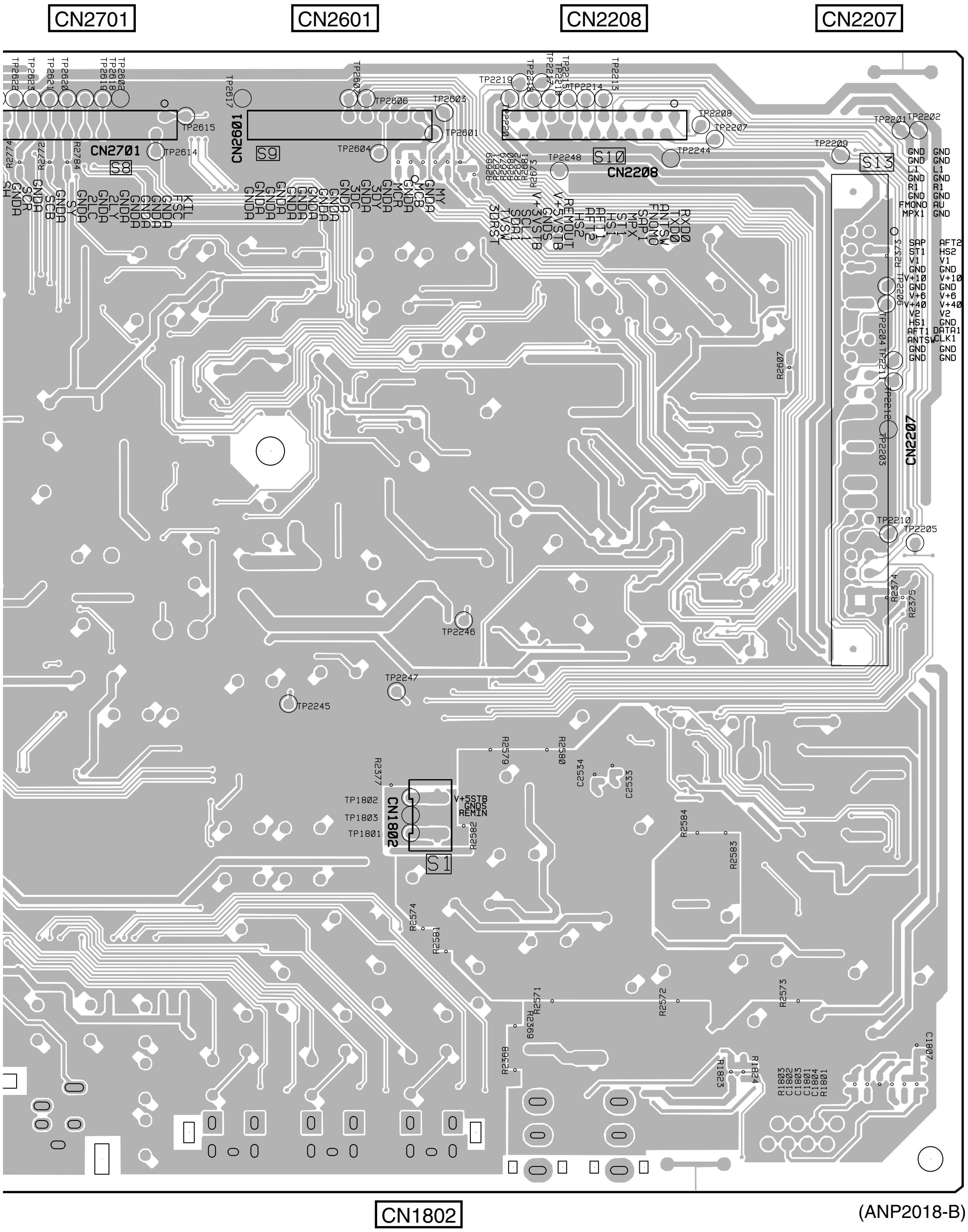
SIDE B

B SIGNAL ASSY



CN2206
CN3905
CN2701
CN3903
CN3904
CN2501
CN3901
Q3927
Q3912
Q2230
Q2228
CN2204
CN2205
S6
S7
S8
S12
S4
S5
S3
S2
S11
V+5V
GND
R
G
B
H
V
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10
V+12V
FR
FL
FV
FC
FY
S2
S11
S12
S13
S14
D3919
D3920
D3912
D3913
D3917
D3918
D3925
D3926
D3901
D3902
D3905
D3906

SIDE B

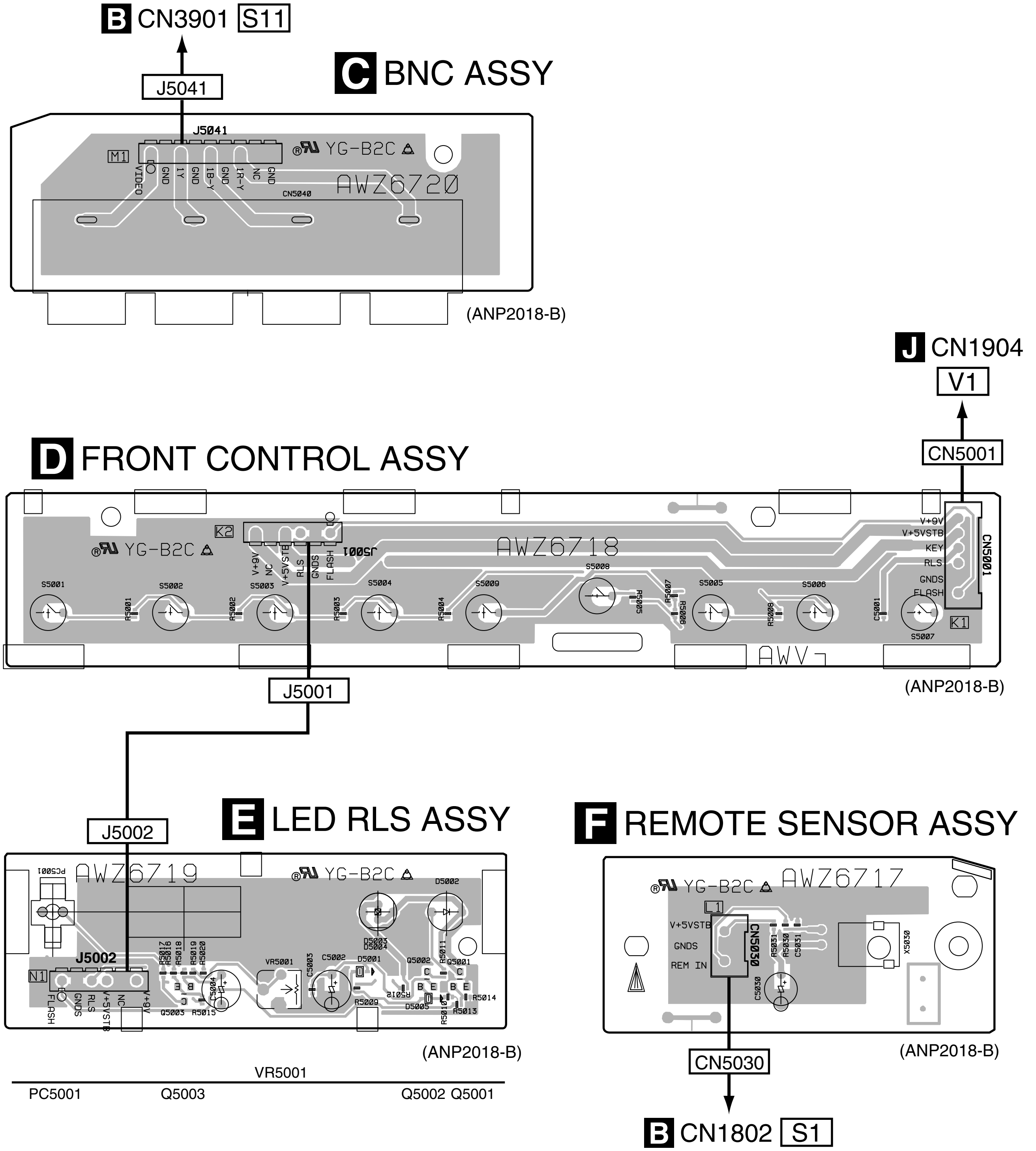

CN2701
CN2601
CN2208
CN2207
CN1802
S8
S9
S10
S13
S1
TP2615
TP2614
TP2617
TP2602
TP2606
TP2603
TP2601
TP2604
TP2219
TP2214
TP2208
TP2207
TP2244
TP2248
TP2201
TP2202
TP2209
TP2210
TP2205
TP2246
TP2247
TP2245
TP1802
TP1803
TP1801
KIL
FSC
GNDA
SCB
SCR
SY
2LC
2LY
3DC
3DY
MCR
MCB
MY
V+3VSTB
V+5VSTB
GNDS
SCL1
SDA1
REMOUT
3DRST
HS2
AFT2
AFT1
HS1
ST1
MPX
SAP1
FMONO
ANTSW
TXD0
RXD0
GND
L1
R1
AU
MPX1
SAP
V1
V2
V+10
V+6
V+40
DATA1
CLK1
V+5STB
GNDS
REMIN
R2607
R2373
R2374
R2375
R2377
R2579
R2580
C2534
C2533
R2584
R2583
R2582
R2574
R2581
R2571
R2569
R2572
R2573
R2368
R1823
R1824
R1803
C1802
C1803
C1801
C1804
R1801
C1807

(ANP2018-B)

4.4 BNC, FRONT CONTROL, LED RLS and REMOTE SENSOR ASSYS

SIDE A

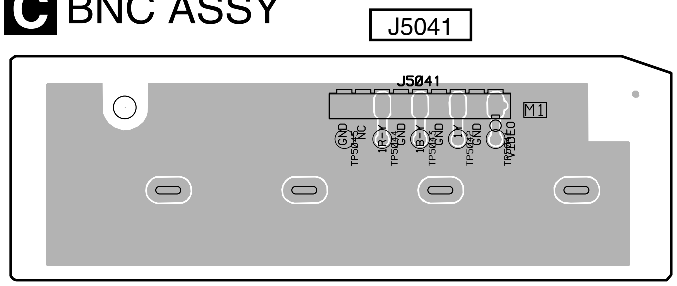
SIDE A


B CN3901 S11
J5041
C BNC ASSY
J5041
M1
VIDEO
GND
1Y
GND
1B-Y
GND
1R-Y
NC
GND
YG-B2C
AWZ6720
CN5040
(ANP2018-B)
J CN1904
V1
CN5001
D FRONT CONTROL ASSY
K2
YG-B2C
J5001
AWZ6718
V+9V
NC
V+5VSTB
RLS
GNDS
FLASH
V+9V
V+5VSTB
KEY
RLS
GNDS
FLASH
CN5001
S5001
S5002
S5003
S5004
S5009
S5008
S5005
S5006
S5007
R5001
R5002
R5003
R5004
R5005
R5007
R5006
R5008
C5001
K1
AWV
(ANP2018-B)
J5001
J5002
E LED RLS ASSY
PC5001
AWZ6719
YG-B2C
D5002
D5003
D5004
R5017
R5016
R5018
R5019
R5020
R5011
J5002
N1
FLASH
GNDS
RLS
V+5VSTB
NC
V+9V
C5004
Q5003
R5015
VR5001
C5003
C5002
D5001
Q5002
Q5001
R5012
R5009
D5005
R5010
R5014
R5013
(ANP2018-B)
VR5001
PC5001
Q5003
Q5002 Q5001
F REMOTE SENSOR ASSY
YG-B2C
AWZ6717
L1
V+5VSTB
GNDS
REM IN
CN5030
R5031
R5030
C5031
X5030
C5030
(ANP2018-B)
CN5030
B CN1802 S1

C D E F

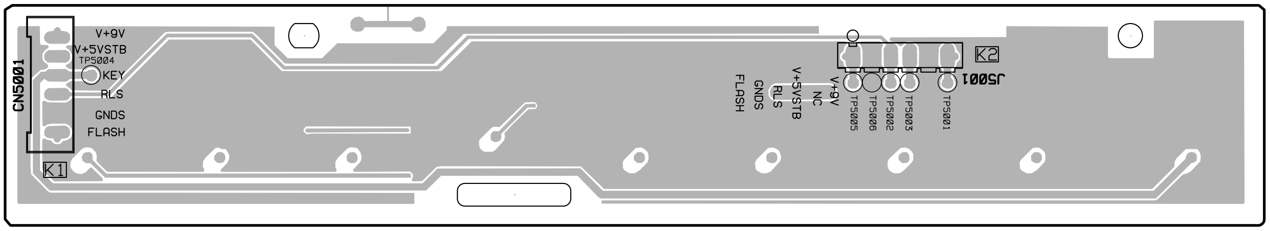
C D E F

C BNC ASSY


J5041
J5041
M1
GND
NC
TP5041
R-Y
GND
TP5044
B-Y
GND
TP5043
Y
GND
TP5042
VIDEO
TP5045

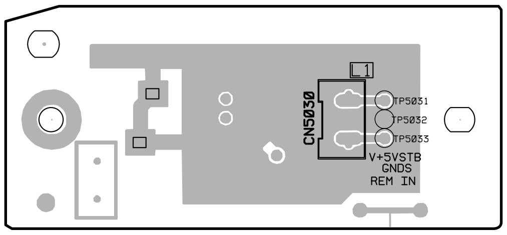
(ANP2018-B)

D FRONT CONTROL ASSY


CN5001
J5001
CN5001
V+9V
V+5VSTB
TP5004
KEY
RLS
GNDS
FLASH
K1
V+9V
NC
V+5VSTB
RLS
GNDS
FLASH
TP5005
TP5006
TP5002
TP5003
TP5001
J5001
K2

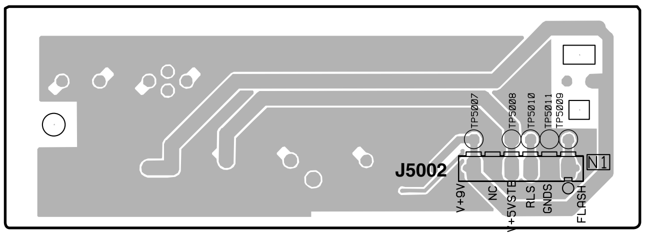
(ANP2018-B)

F REMOTE SENSOR ASSY


L1
CN5030
TP5031
TP5032
TP5033
V+5VSTB
GNDS
REM IN
CN5030

(ANP2018-B)

E LED RLS ASSY


J5002
TP5007
TP5008
TP5010
TP5011
TP5009
J5002
N1
V+9V
NC
V+5VSTB
RLS
GNDS
FLASH

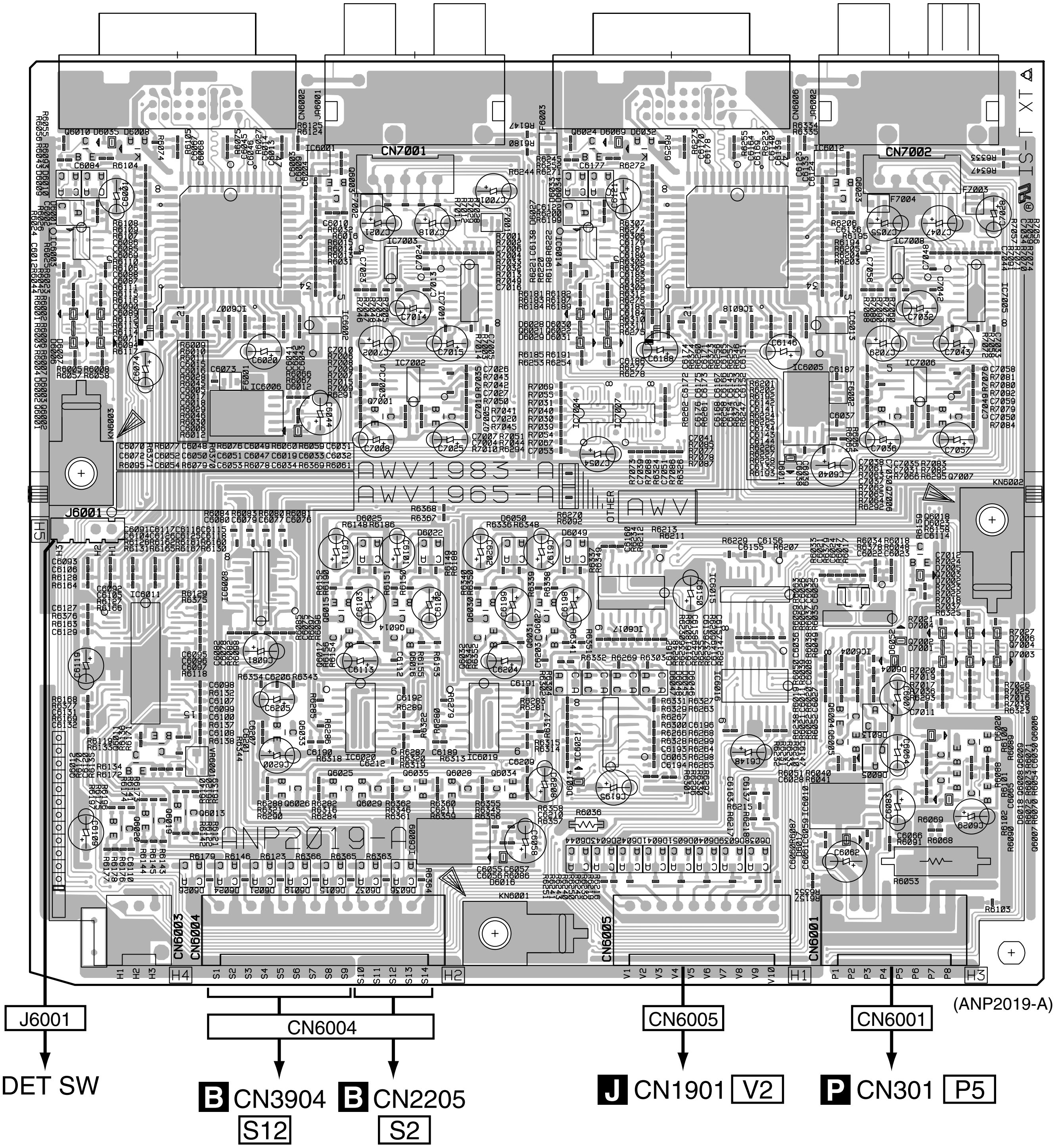
(ANP2018-B)

4.5 DVI SERVICE ASSY

SIDE A **SIDE A**

IC6003 Q6010 IC6007 IC6001 Q6003 IC7003 IC7001
IC6006 IC6002 Q7001 IC7002 Q7005 Q6024 IC6012 Q6023
IC6008 Q6015 Q6014 Q6030 Q6027 IC6014 IC6018 IC6013 IC7008 IC7005
Q6017 Q6014 Q6032 Q6031 IC7004 IC7007 IC6005 Q7006 IC7006 Q7007
IC6011 Q6033 IC6020 IC6019 IC6017 IC6015 IC6004 Q7003
Q6012 Q6011 Q6026 Q6025 Q6029 Q6035 Q6028 Q6034 IC6021 IC6016 Q6004 Q6005 Q6009 Q6006
Q6020 Q6019 Q6013 IC6009 IC6010 Q6008 Q6007

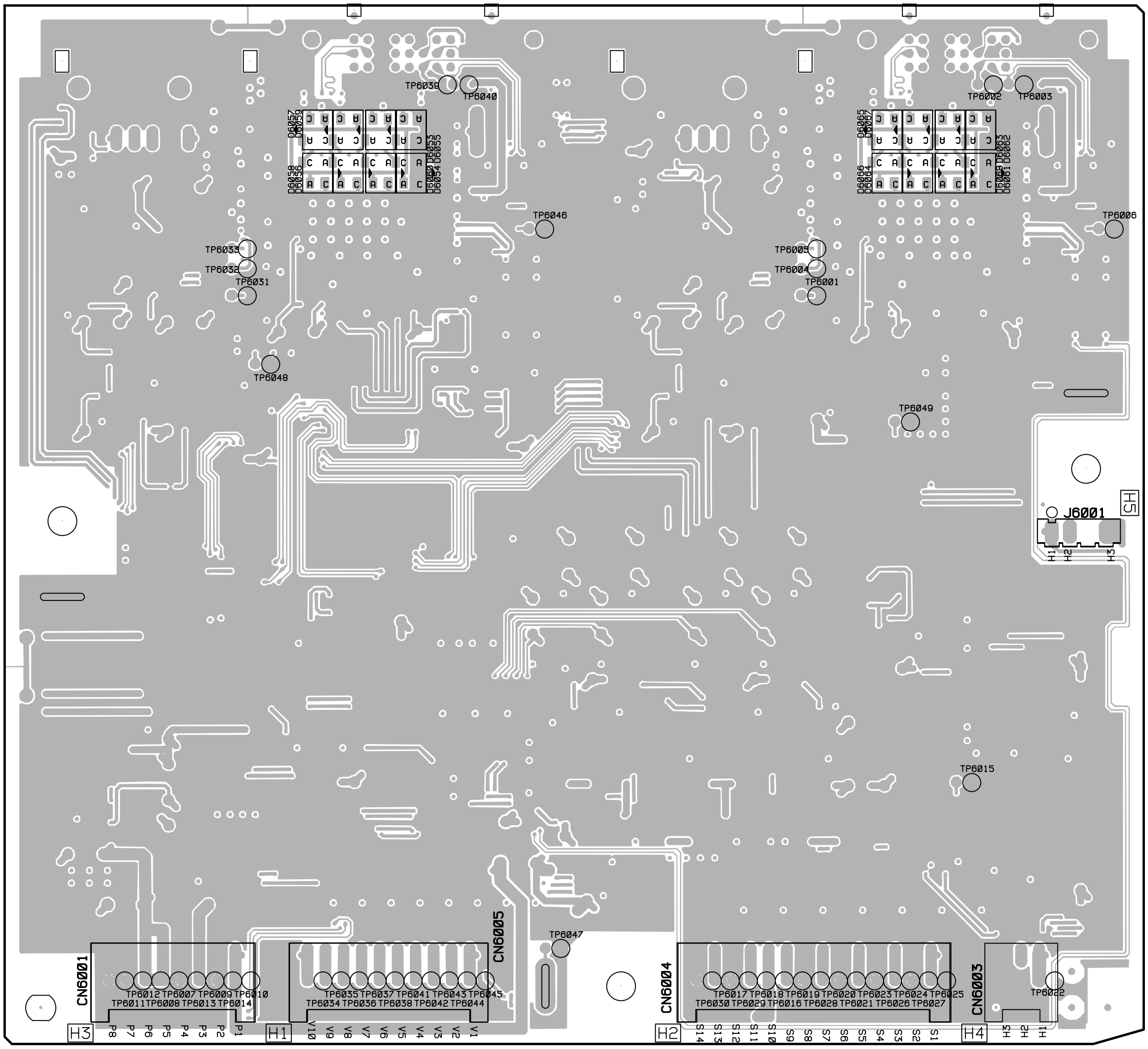
I DVI SERVICE ASSY



AWV1983-A
AWV1965-A
ANP2019-A
CN7001
CN7002
CN6003
CN6004
CN6005
CN6001
J6001
KN6001
KN6002
KN6003
H1 H2 H3 H4
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14
V1 V2 V3 V4 V5 V6 V7 V8 V9 V10
P1 P2 P3 P4 P5 P6 P7 P8
(ANP2019-A)
J6001
CN6004
CN6005
CN6001
DET SW
B CN3904
S12
B CN2205
S2
J CN1901
V2
P CN301
P5

SIDE B **SIDE B**

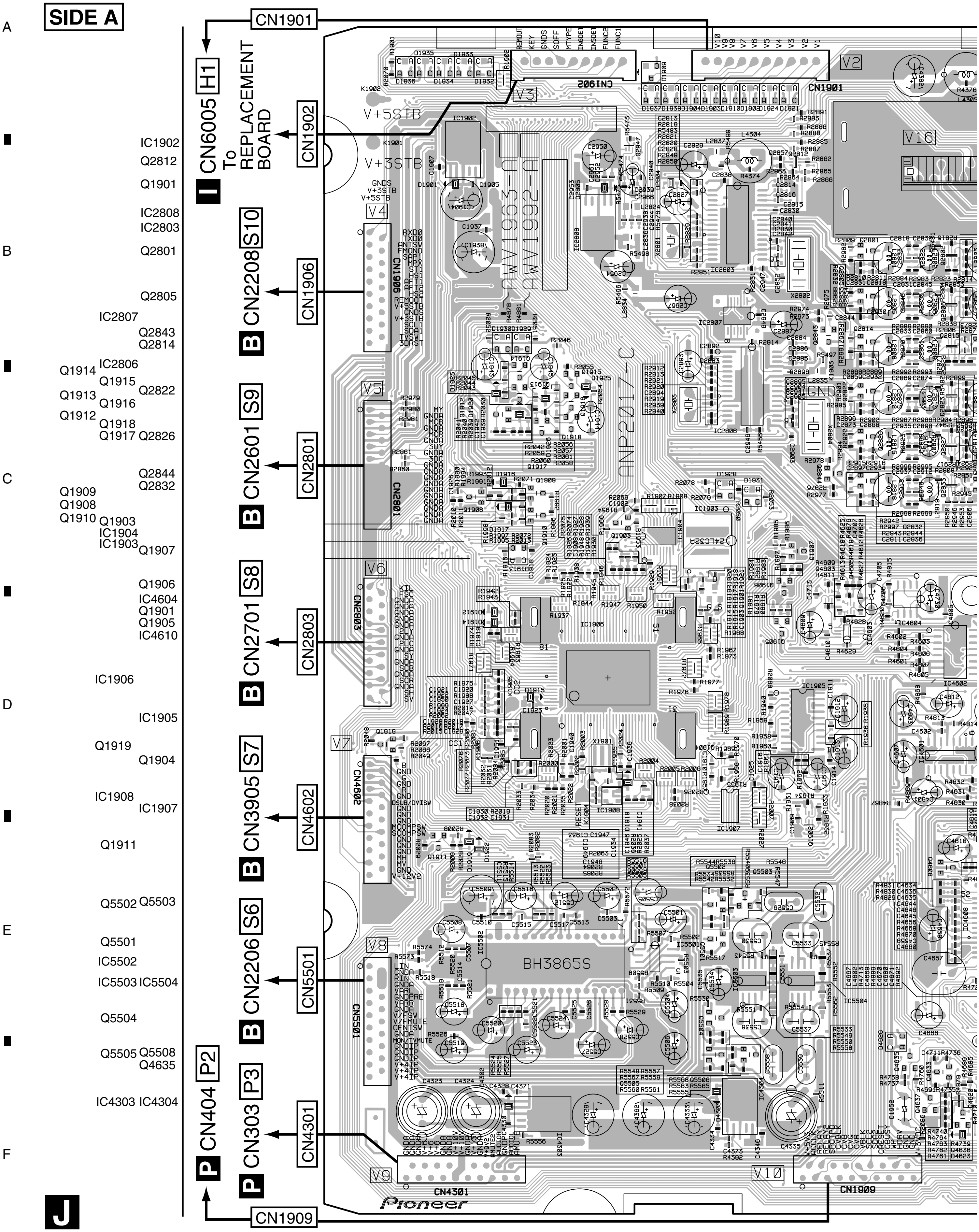
I DVI SERVICE ASSY


TP6039
TP6040
TP6002
TP6003
D6057
D6059
D6058
D6056
D6052
D6053
D6054
D6055
D6065
D6067
D6066
D6064
D6063
D6062
D6061
D6060
A
C
TP6046
TP6006
TP6033
TP6032
TP6031
TP6005
TP6004
TP6001
TP6048
TP6049
J6001
H5
H1
H2
H3
TP6015
TP6047
CN6001
TP6012 TP6007 TP6009 TP6010
TP6011 TP6008 TP6013 TP6014
P8 P7 P6 P5 P4 P3 P2 P1
H3
CN6005
TP6035 TP6037 TP6041 TP6043 TP6045
TP6034 TP6036 TP6038 TP6042 TP6044
V10 V9 V8 V7 V6 V5 V4 V3 V2 V1
H1
CN6004
TP6017 TP6018 TP6019 TP6020 TP6023 TP6024 TP6025
TP6030 TP6029 TP6016 TP6028 TP6021 TP6026 TP6027
S14 S13 S12 S11 S10 S9 S8 S7 S6 S5 S4 S3 S2 S1
H2
CN6003
TP6022
H3 H2 H1
H4

CN6001 CN6005 CN6004 (ANP2019-A) J6001

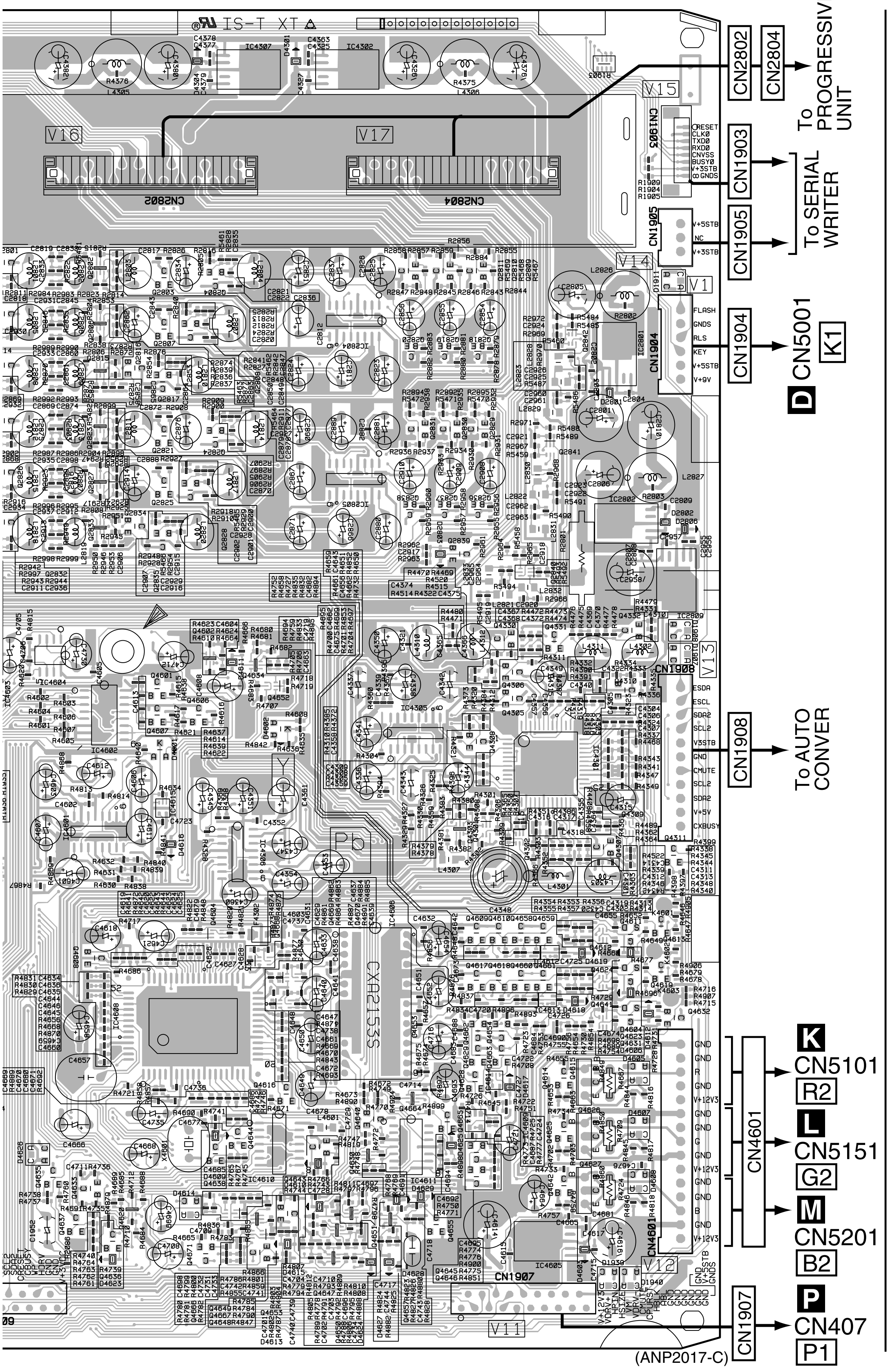
4.6 VIDEO UCOM SERVICE ASSY

SIDE A


A
B
C
D
E
F
CN1901
H1
CN6005
To
REPLACEMENT
BOARD
I
CN1902
S10
CN2208
B
CN1906
S9
CN2601
B
CN2801
S8
CN2701
B
CN2803
S7
CN3905
B
CN4602
S6
CN2206
B
CN5501
P2
CN404
P3
CN303
P
P
CN4301
CN1909
IC1902
Q2812
Q1901
IC2808
IC2803
Q2801
Q2805
IC2807
Q2843
Q2814
Q1914
IC2806
Q1915
Q1913
Q2822
Q1916
Q1912
Q1918
Q1917
Q2826
Q2844
Q2832
Q1909
Q1908
Q1910
Q1903
IC1904
IC1903
Q1907
Q1906
IC4604
Q1901
Q1905
IC4610
IC1906
IC1905
Q1919
Q1904
IC1908
IC1907
Q1911
Q5502
Q5503
Q5501
IC5502
IC5503
IC5504
Q5504
Q5505
Q5508
Q4635
IC4303
IC4304
V+5STB
V+3STB
V2
V3
V4
V5
V6
V7
V8
V9
V10
V16
CN1902
CN1901
CN1906
CN2801
CN2803
CN4602
CN5501
CN4301
CN1909
AWV1963-A
AWV1992-A
ANP2017-C
BH3865S
24LC32A
RESET
GND
Pioneer

J

SIDE A


IS-T XT
IC4307
IC4302
V15
V16
V17
CN2802
CN2804
CN1903
RESET
CLK0
TXD0
RXD0
CNVSS
BUSY0
V+3STB
GNDS
CN1905
V+5STB
NC
V+3STB
V14
V1
CN1904
FLASH
GNDS
RLS
KEY
V+5STB
V+9V
CN2802
CN2804
To PROGRESSIVE UNIT
CN1903
To SERIAL WRITER
CN1905
CN1904
D CN5001
K1
IC2804
IC2805
IC2801
IC2802
IC2809
V13
CN1908
ESDA
ESCL
SDA2
SCL2
V3STB
GND
CMUTE
SCL2
SDA2
V+5V
CXBUSY
CN1908
To AUTO CONVER
Y
Pb
Pr
IC4305
IC4306
IC4301
IC4602
IC4604
IC4615
IC4601
IC4608
IC4606
CXA2153S
CN4601
GND
GND
R
GND
V+12V3
GND
GND
G
GND
V+12V3
GND
GND
B
GND
V+12V3
K CN5101
R2
L CN5151
G2
M CN5201
B2
V12
CN1907
V11
IC4605
IC4610
IC4611
CN1907
P CN407
P1
(ANP2017-C)

IC4307 IC4302

J

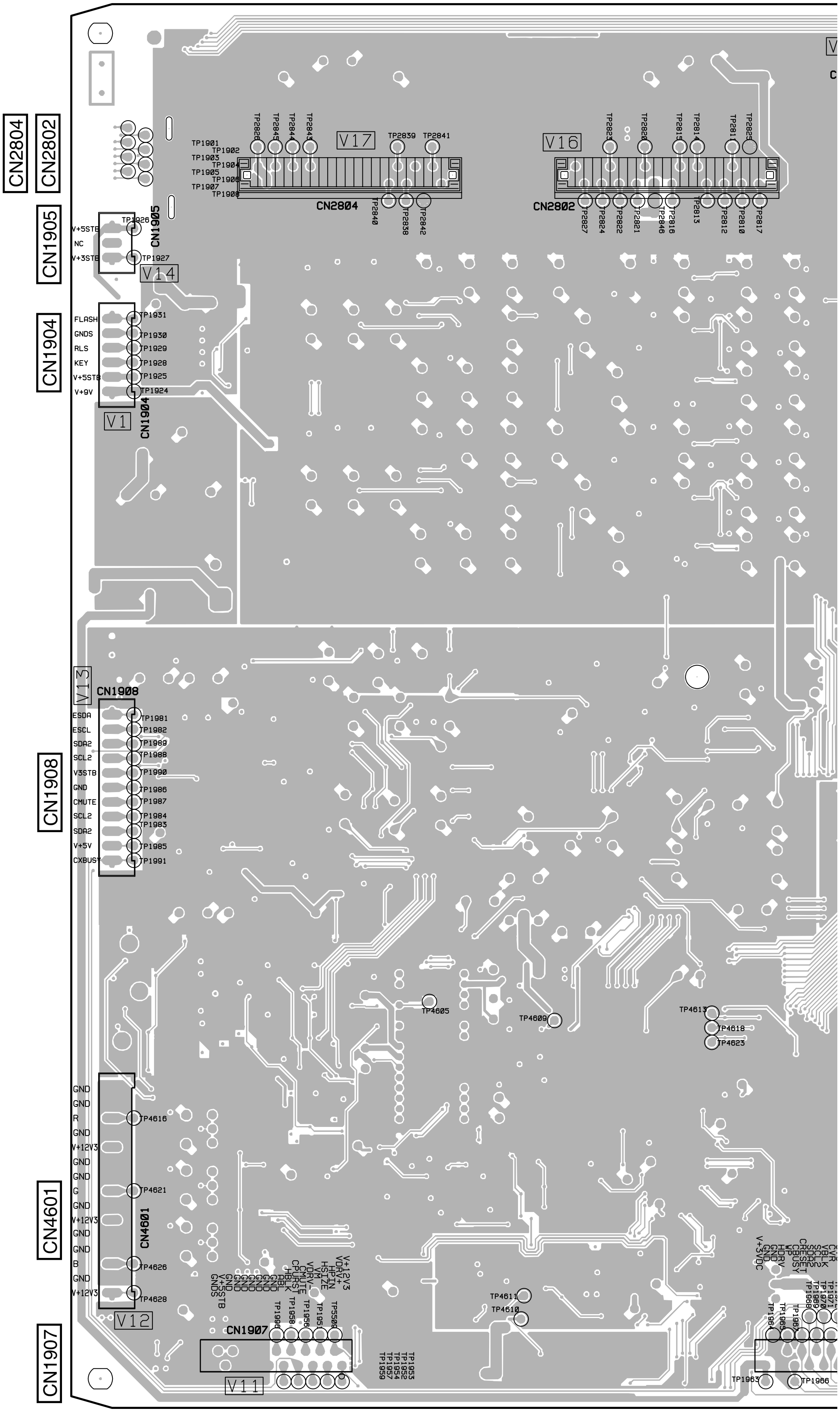
VIDEO UCOM SERVICE ASSY

Q2802 Q2811
Q2803 Q2804 Q2810
Q2809
Q2806 IC2804
Q2807 Q2808 Q2842
Q2820 IC2801
Q2819
Q2815 Q2818
Q2816 Q2817
Q2823 Q2831
Q2830
Q2821 Q2824 Q2829
Q2841
IC2805
Q2827 Q2828
Q2825 Q2838
Q2837
Q2834 Q2836 IC2802
Q2833 Q2835
Q2839
Q2840
IC2809
Q4330 Q4332
Q4602 Q4331
Q4634 Q4306
Q4601 Q4652 Q4310
Q4607 Q4305
Q4608 IC4305
IC4602 Q4308
IC4301
IC4615
IC4601
IC4306 Q4302 Q4307
Q4609 Q4611
Q4610 Q4612
Q4658 Q4613
Q4608 Q4659 IC4612
Q4668 Q4617 Q4623
Q4669 Q4618 Q4624
Q4660 Q4641
Q4670 Q4661 Q4619
IC4608 Q4662 IC4613
Q4654 Q4631
IC4606 Q4629 Q4632
Q4663
IC4614 Q4615
Q4616 Q4628 Q4614
IC4610 Q4664 IC4609
Q4640 Q4665 Q4628
Q4644 Q4625
Q4638 Q4643 Q4645
IC4610 IC4611 Q4627
Q4646
Q4633 Q4666 Q4642
Q4620 Q4669 Q4651
Q4653 Q4657
Q4637 Q4667 Q4655
Q4636 Q4647
Q4671 Q4668 IC4605
Q4650

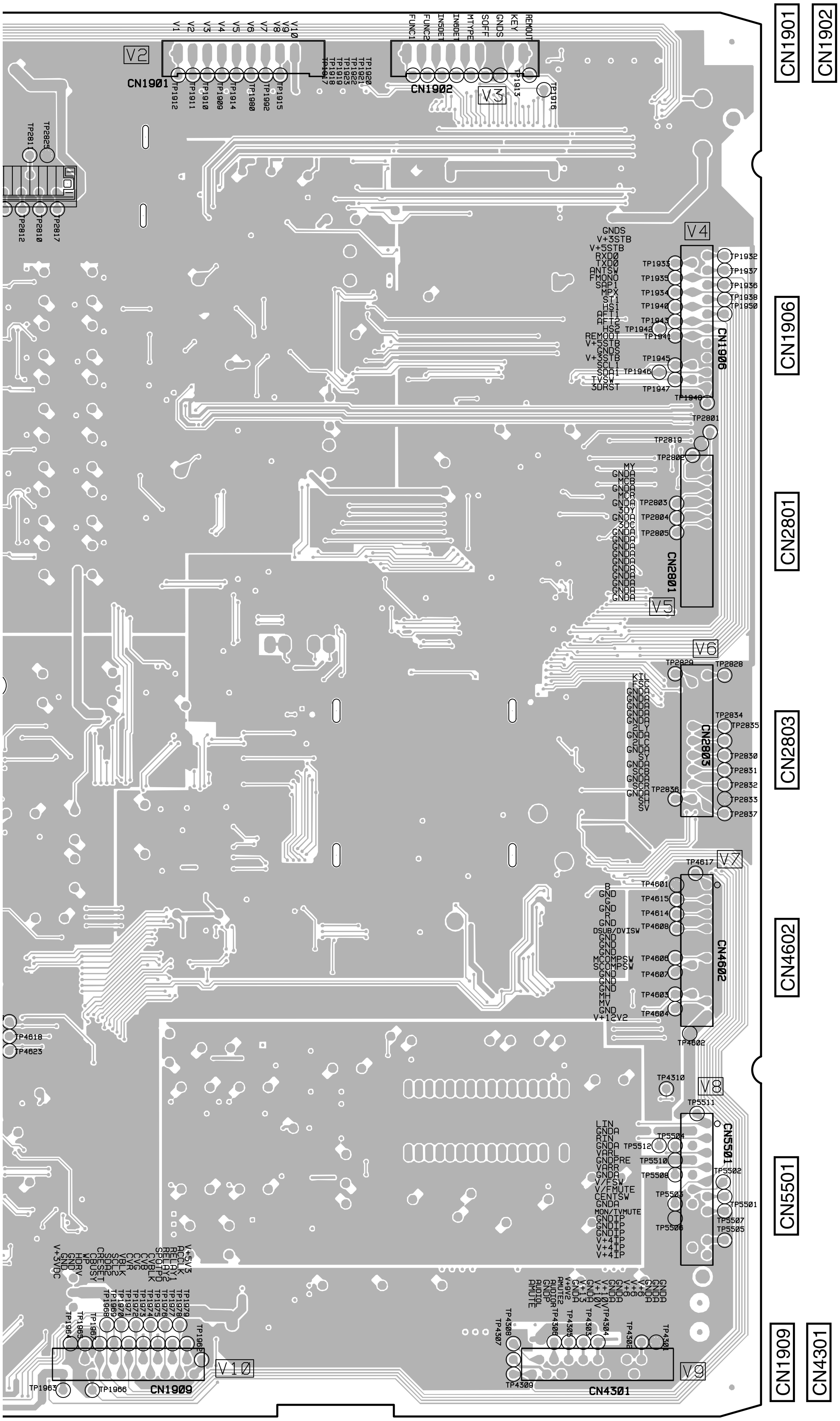
J

SIDE B

J VIDEO UCOM SERVICE ASSY


CN2804
CN2802
CN1905
CN1904
CN1908
CN4601
CN1907
V17
V16
V14
V1
V13
V12
V11
TP1901
TP1902
TP1903
TP1904
TP1905
TP1906
TP1907
TP1908
TP2839
TP2841
TP2840
TP2838
TP2842
V+5STB
NC
V+3STB
TP1926
TP1927
FLASH
GNDS
RLS
KEY
V+5STB
V+9V
TP1931
TP1930
TP1929
TP1928
TP1925
TP1924
ESDA
ESCL
SDA2
SCL2
V3STB
GND
CMUTE
SCL2
SDA2
V+5V
CXBUSY
TP1981
TP1982
TP1989
TP1988
TP1990
TP1986
TP1987
TP1984
TP1983
TP1985
TP1991
TP4605
TP4609
TP4613
TP4618
TP4623
GND
GND
R
GND
V+12V3
GND
GND
G
GND
V+12V3
GND
GND
B
GND
V+12V3
TP4616
TP4621
TP4626
TP4628
TP4611
TP4610
TP1963
TP1966

SIDE B

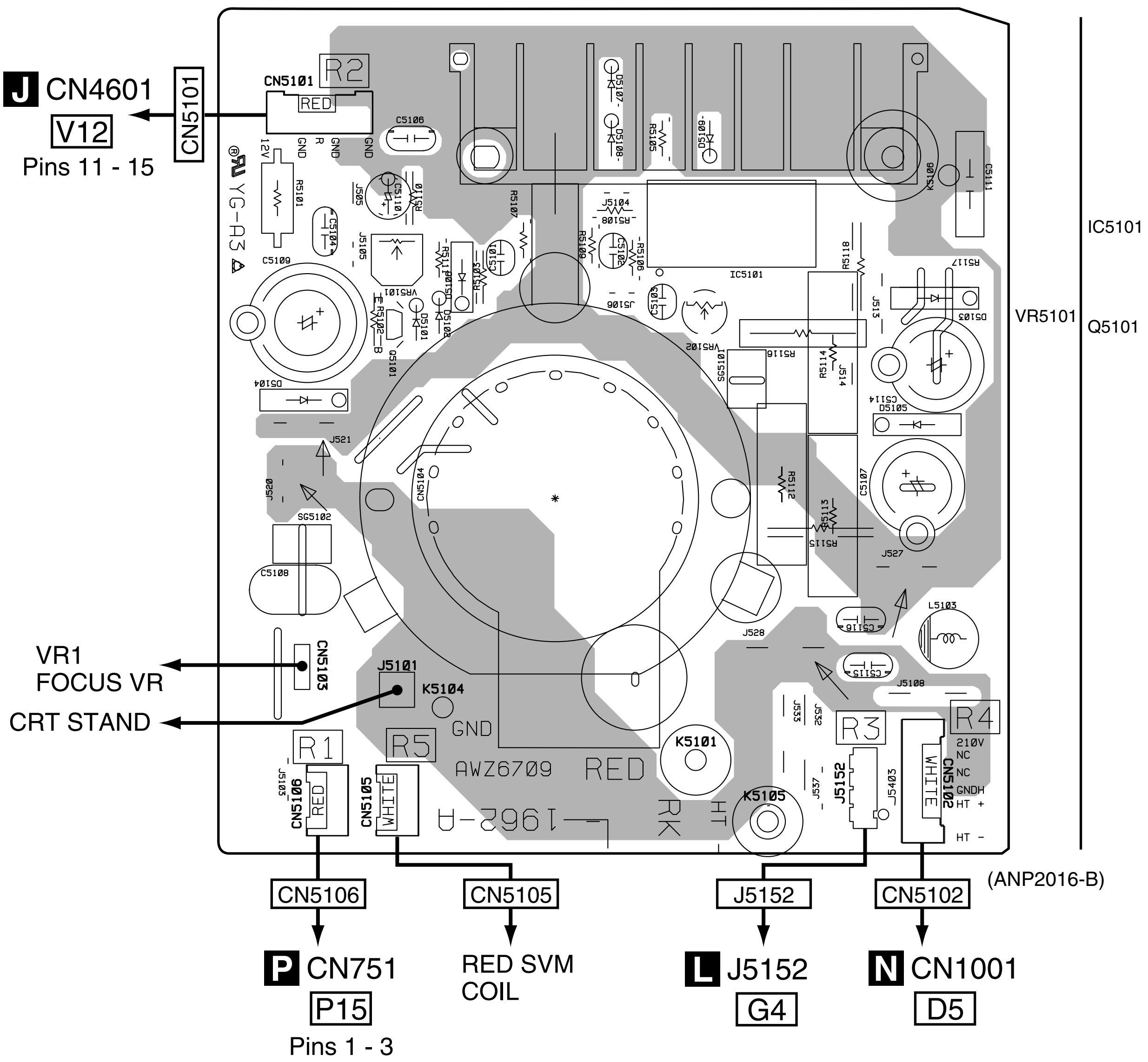

CN1901
CN1902
V1 V2 V3 V4 V5 V6 V7 V8 V9 V10
FUNC1 FUNC2 INSDET INBDET MTYPE SOFF GNDS KEY REMOUT
V2
V3
V4
GNDS
V+3STB
V+5STB
RXD0
TXD0
ANTSW
FMONO
SAP1
MPX
ST1
HS1
AFT1
AFT2
HS2
REMOUT
V+5STB
GNDS
V+3STB
SCL1
SDA1
TVSW
3DRST
CN1906
MY
GNDA
MCB
GNDA
MCR
GNDA
3DY
GNDA
3DC
GNDA
CN2801
V5
V6
KIL
FSC
GNDA
2LY
GNDA
2LC
GNDA
SY
GNDA
SCB
GNDA
SCR
GNDA
SH
SV
CN2803
V7
B
GND
G
GND
R
GND
DSUB/DVISW
GND
MCOMPSW
SCOMPSW
GND
MH
MV
GND
V+12V2
CN4602
V8
LIN
GNDA
RIN
GNDA
VARL
GNDPRE
VARR
GNDA
V/FSW
V/FMUTE
CENTSW
GNDA
MON/TVMUTE
GNDIP
V+4IP
CN5501
V+3VDC
GND
HDRV
WP
CEBUSY
SDAD2
SCLK
CVR
CVG
CVB
CVBLK
SPDTPD
REQ
RESET
ACLK
V+5V3
CN1909
V10
AMUTE
AUDIO
GNDP
GNDA
V+9V2
V+10V
V+5
GNDA
CN4301
V9
CN1909
CN4301
CN2801
CN2803
CN4602
CN5501
CN1906

(ANP2017-C)

4.7 R CRT DRIVE ASSY

SIDE A **SIDE A**

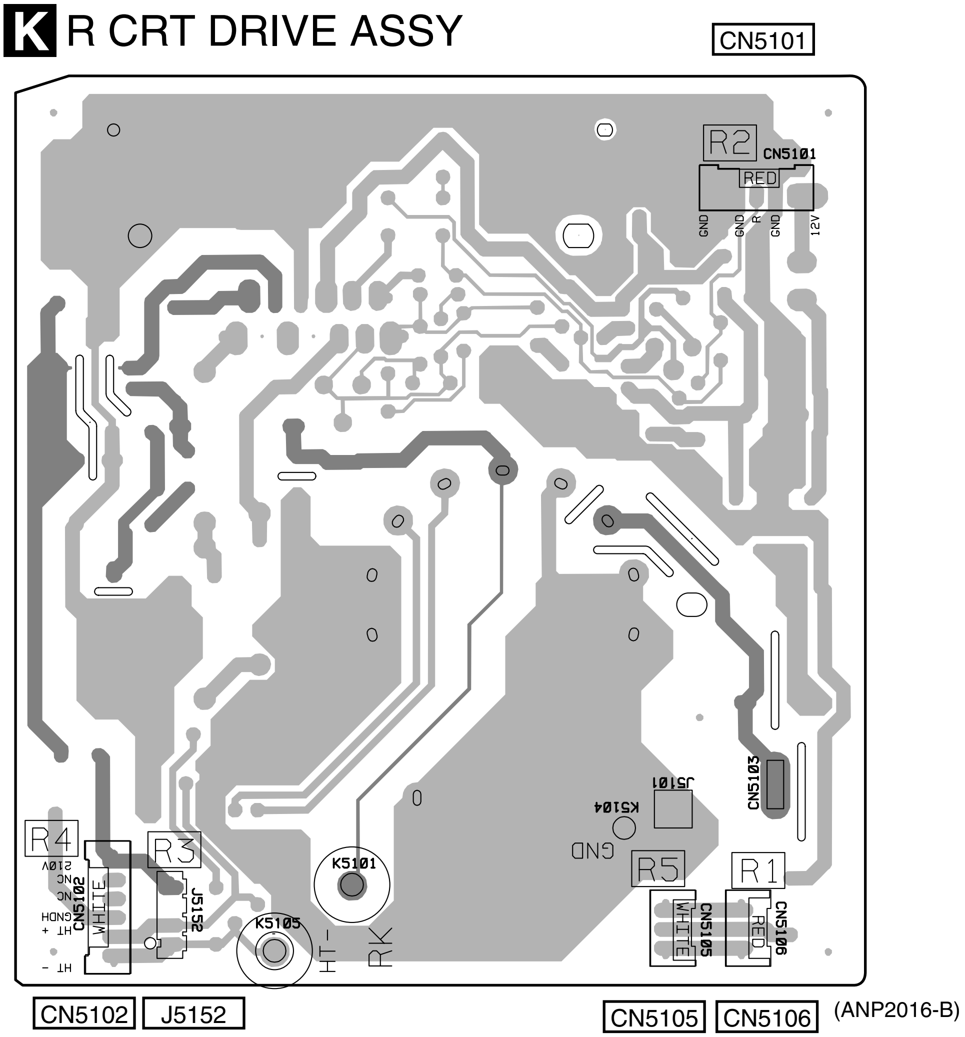
K R CRT DRIVE ASSY


J CN4601
V12
Pins 11 - 15
CN5101
CN5101
R2
RED
12V GND R GND GND
C5106
C5111
K5106
R5101
C5109
YG-A3
J505
C5110
C5104
J5105
VR5101
D5107
D5108
R5105
D5109
R5107
J5104
R5108
R5109
C5102
R5106
C5101
R5111
R5103
D5101
D5102
R5102
Q5101
J5106
C5103
VR5102
IC5101
R5118
R5117
J513
D5103
R5116
R5114
J514
SG5101
C5114
D5105
D5104
J521
J520
SG5102
CN5104
C5107
R5112
R5113
R5115
J527
C5108
L5103
C5116
J528
C5115
J5108
VR1
FOCUS VR
CN5103
J5101
K5104
CRT STAND
GND
J533
J532
R3
R4
R1
R5
K5101
J5103
CN5106
RED
CN5105
WHITE
AWZ6709 RED
1962-A
RK
HT
K5105
J537
J5152
J5403
CN5102
WHITE
210V
NC
NC
GNDH
HT +
HT -
IC5101
VR5101
Q5101
(ANP2016-B)
CN5106
CN5105
J5152
CN5102
P CN751
P15
Pins 1 - 3
RED SVM
COIL
L J5152
G4
N CN1001
D5

SIDE B

SIDE B

K R CRT DRIVE ASSY

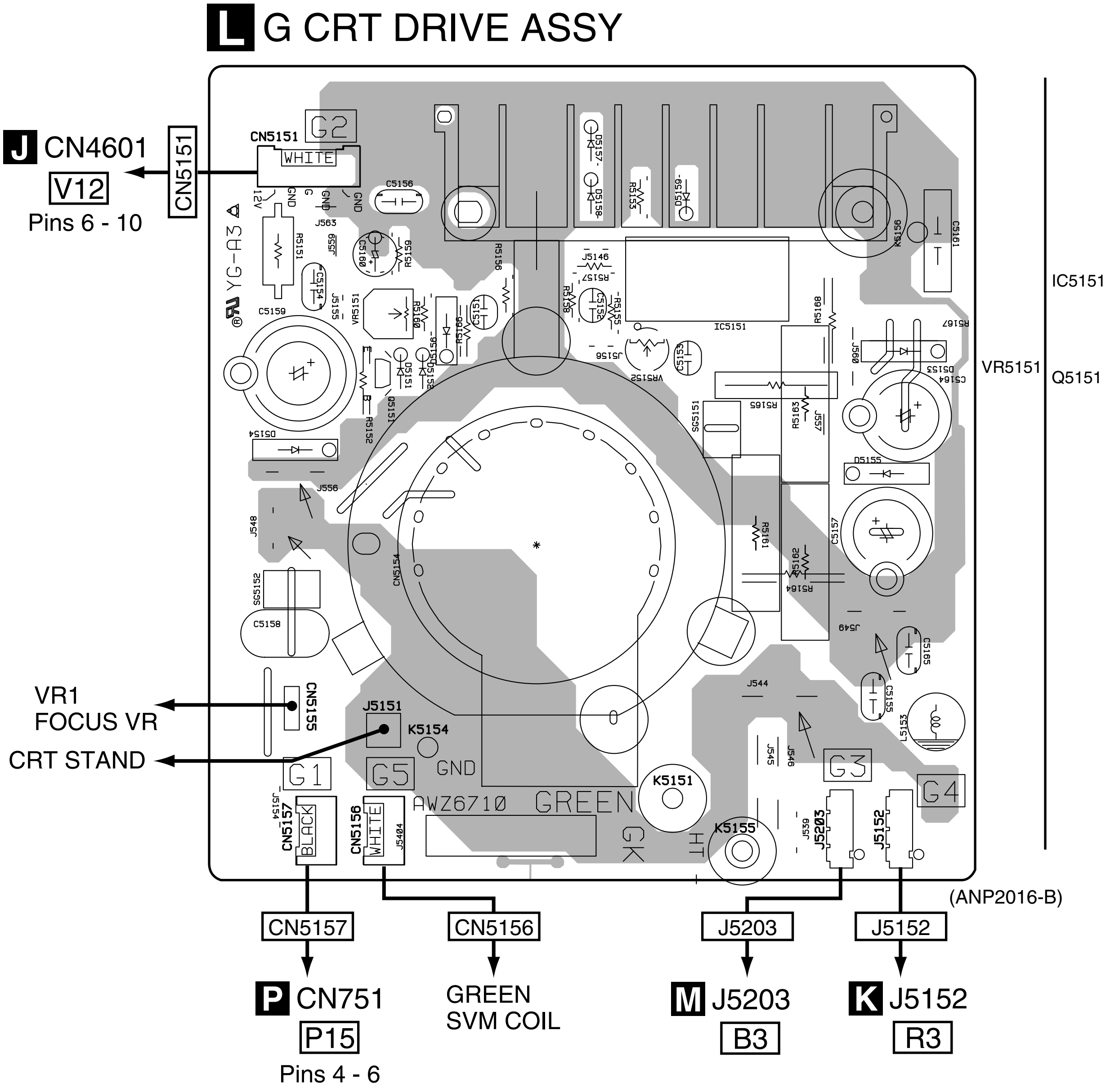

CN5101
R2
CN5101
RED
GND
GND
R
GND
12V
J5101
K5104
CN5103
GND
R4
210V
NC
NC
GNDH
HT +
HT -
CN5102
WHITE
R3
J5152
K5101
K5105
HT-
RK
R5
R1
CN5105
WHITE
CN5106
RED
CN5102
J5152
CN5105
CN5106
(ANP2016-B)

■ mark shows a high voltage generation point.

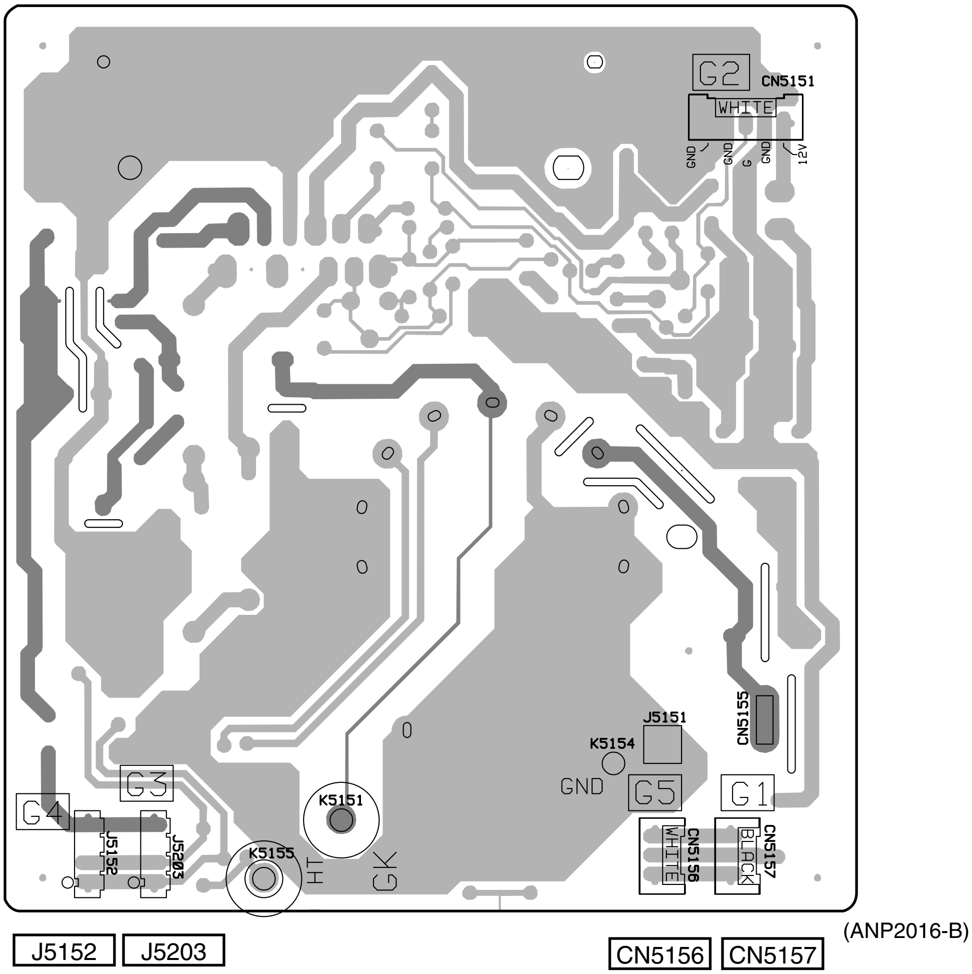
4.8 G CRT DRIVE ASSY

SIDE A

SIDE A


L G CRT DRIVE ASSY
J CN4601
V12
Pins 6 - 10
CN5151
CN5151
WHITE
G2
12V
GND
G
GND
GND
C5156
J563
J559
C5160
R5159
R5151
C5154
J5155
VR5151
R5160
R5166
C5151
R5156
C5159
YG-A3
D5157
D5158
R5153
D5159
J5146
R5157
R5158
C5152
R5155
IC5151
J5156
VR5152
C5153
K5156
C5161
R5168
R5167
J560
D5153
C5164
D5151
D5156
D5152
R5152
D5154
SG5151
R5165
R5163
J557
D5155
J556
J548
CN5154
R5161
R5162
R5164
C5157
SG5152
C5158
J549
C5165
C5155
L5153
J544
J545
J546
G3
G4
CN5155
J5151
K5154
GND
G1
G5
J5154
CN5157
BLACK
CN5156
WHITE
J5404
AWZ6710
GREEN
K5151
K5155
HT
GK
J539
J5203
J5152
IC5151
VR5151
Q5151
VR1
FOCUS VR
CRT STAND
(ANP2016-B)
CN5157
CN5156
J5203
J5152
P CN751
P15
Pins 4 - 6
GREEN
SVM COIL
M J5203
B3
K J5152
R3

L G CRT DRIVE ASSY

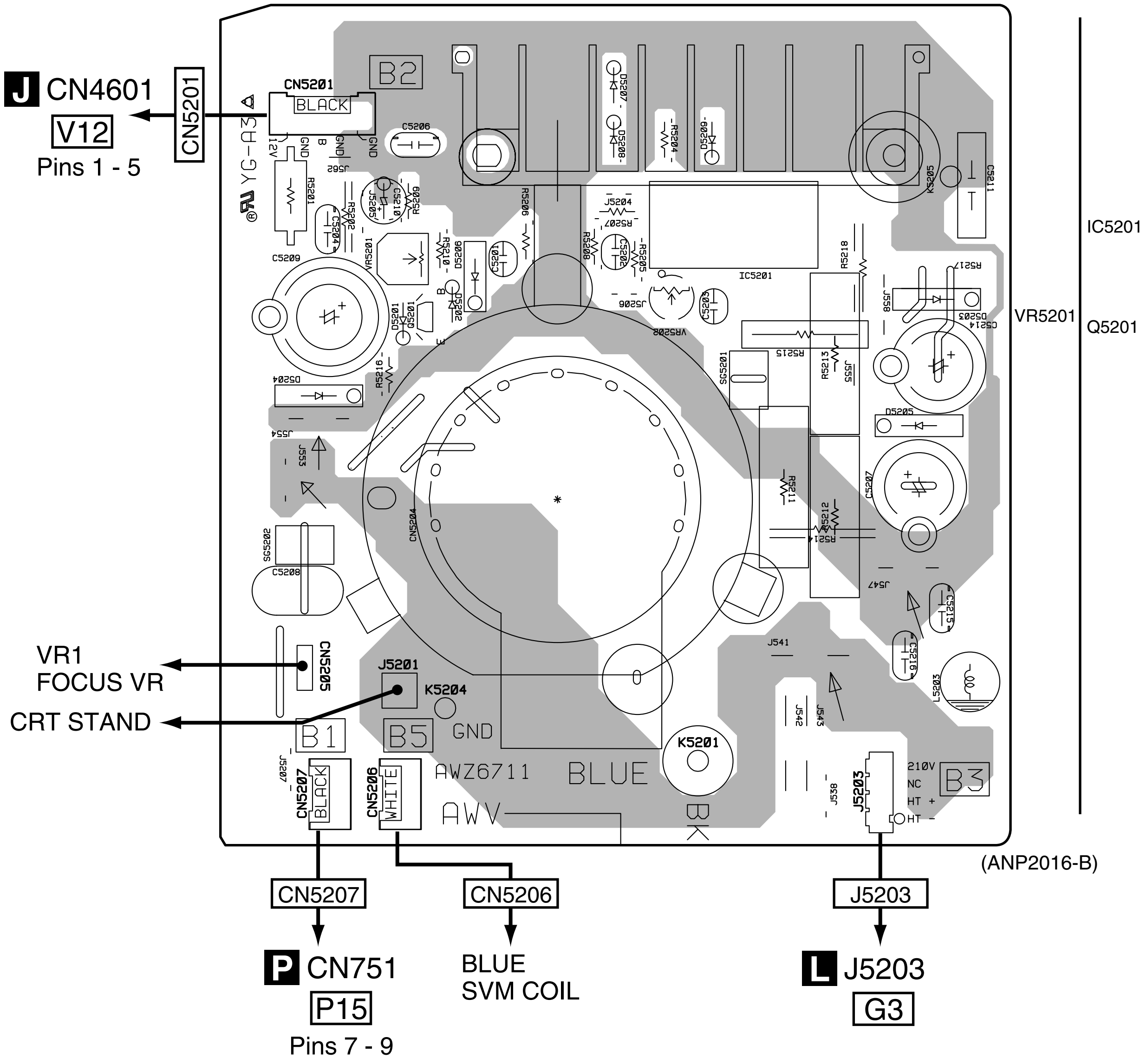

CN5151
G2
CN5151
WHITE
GND
GND
G
GND
12V
CN5155
J5151
K5154
GND
G5
G1
G3
G4
J5152
J5203
K5151
K5155
HT
GK
WHITE
CN5156
BLACK
CN5157
(ANP2016-B)
J5152
J5203
CN5156
CN5157

■ mark shows a high voltage generation point.

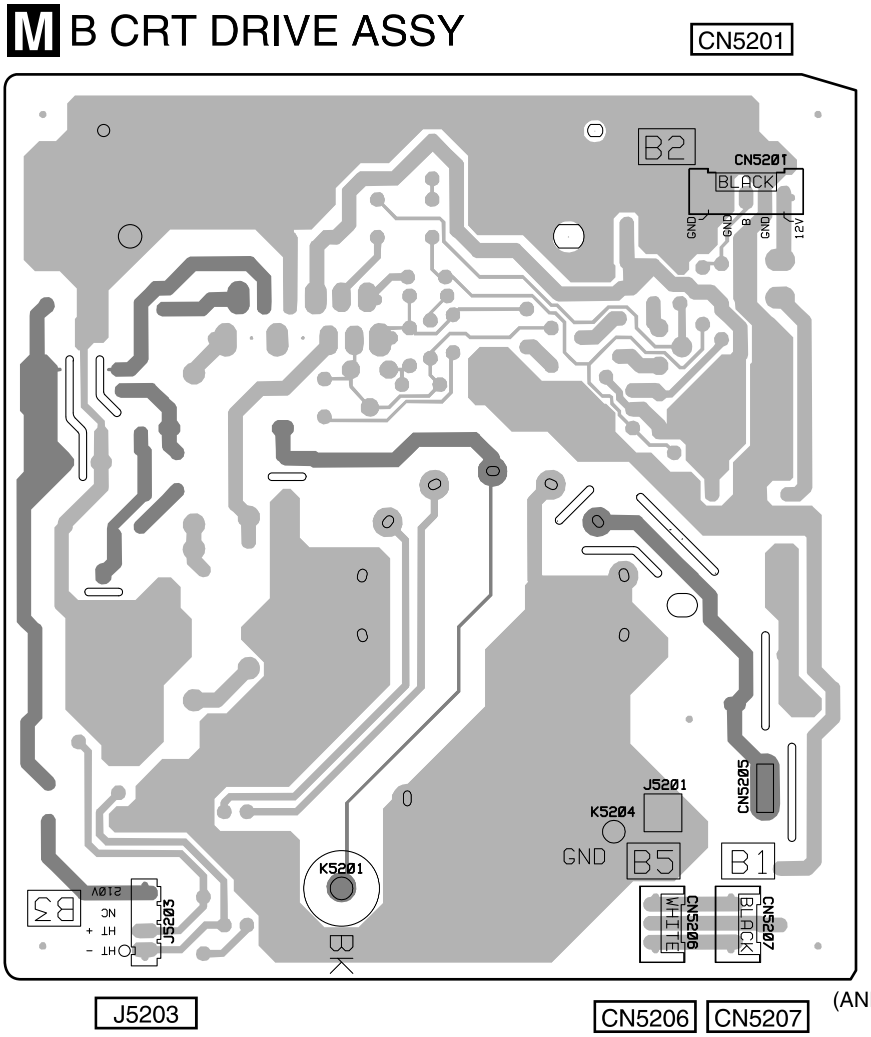
4.9 B CRT DRIVE ASSY

SIDE A **SIDE A**

M B CRT DRIVE ASSY


J CN4601
V12
Pins 1 - 5
CN5201
CN5201
BLACK
12V
GND
B
GND
GND
YG-A3
B2
C5206
R5201
J562
R5202
C5204
C5210
R5209
J5205
VR5201
C5209
R5210
D5206
C5201
D5207
D5208
R5204
D5209
R5206
J5204
R5207
R5208
C5202
R5205
IC5201
J5206
VR5202
C5203
K5205
C5211
R5218
R5217
J558
D5203
C5214
D5201
Q5201
D5202
R5216
D5204
J554
J553
SG5201
R5215
R5213
J555
D5205
C5207
CN5204
R5211
R5212
R5214
SG5202
C5208
J547
C5215
C5216
L5203
J541
J542
J543
VR1
FOCUS VR
CN5205
J5201
K5204
CRT STAND
B1
B5
GND
K5201
J5207
CN5207
BLACK
CN5206
WHITE
AWZ6711
BLUE
AWV
BK
J538
J5203
210V
NC
HT +
HT -
B3
IC5201
VR5201
Q5201
(ANP2016-B)
CN5207
CN5206
J5203
P CN751
P15
Pins 7 - 9
BLUE
SVM COIL
L J5203
G3

M B CRT DRIVE ASSY


CN5201
B2
CN5201
BLACK
GND
GND
B
GND
12V
J5201
K5204
GND
B5
B1
CN5205
K5201
BK
B3
210V
NC
HT +
HT -
J5203
CN5206
WHITE
CN5207
BLACK
J5203
CN5206
CN5207

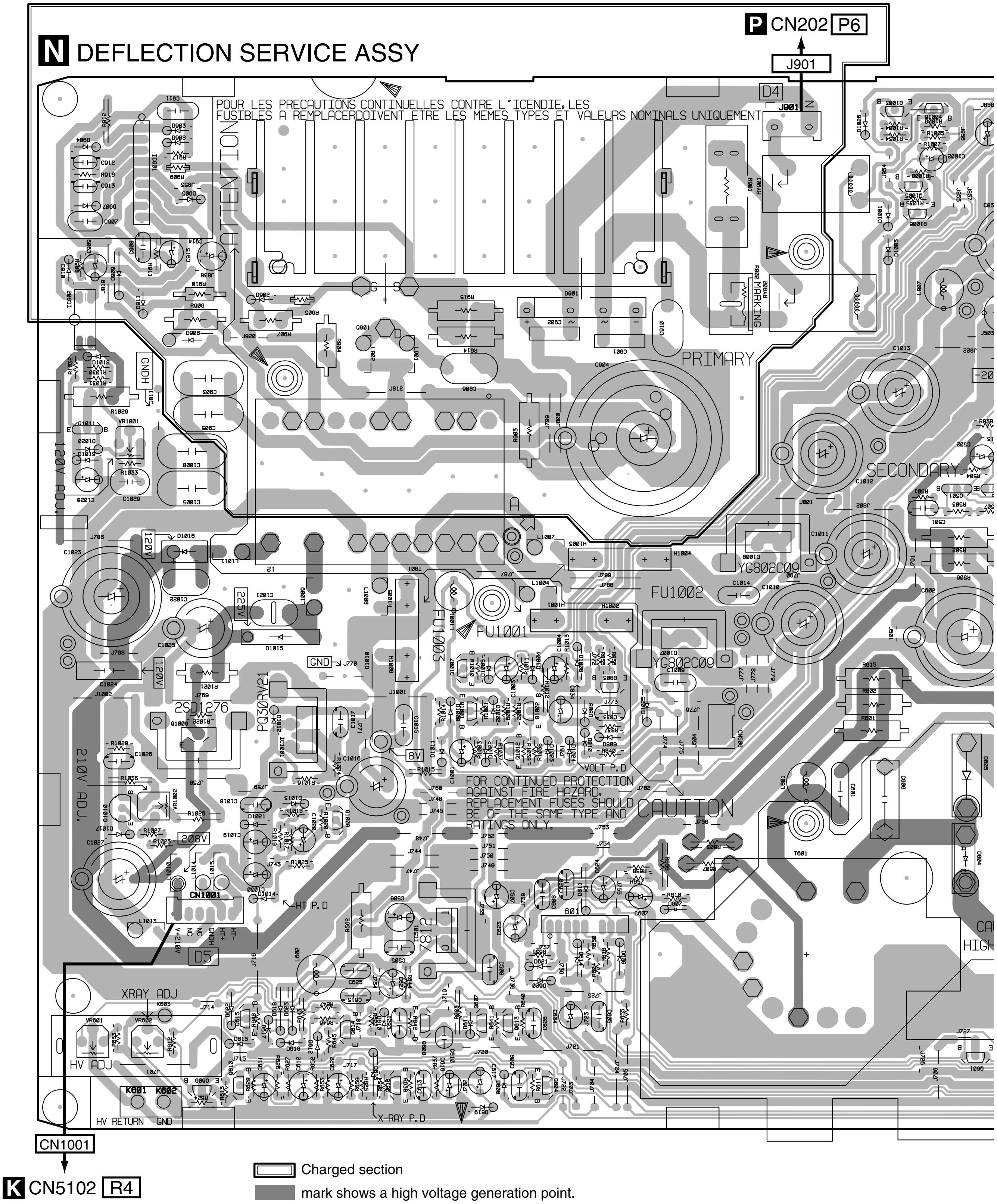
(ANP2016-B)

▨ mark shows a high voltage generation point.

4.10 DEFLECTION SERVICE ASSY

SIDE A

N-a


P CN202 P6
J901
N DEFLECTION SERVICE ASSY
D4
POUR LES PRECAUTIONS CONTINUELLES CONTRE L'ICENDIE,LES FUSIBLES A REMPLACERDOIVENT ETRE LES MEMES TYPES ET VALEURS NOMINALS UNIQUEMENT
ATTENTION
MARKING
PRIMARY
SECONDARY
GNDH
120V ADJ.
120V
225V
FU1001
FU1002
YG802C09
2SD1276
PQ30RV21
GND
8V
VOLT P.D
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
CAUTION
210V ADJ.
208V
CN1001
HT P.D
D5
XRAY ADJ
HV ADJ
K601 K602
HV RETURN GND
X-RAY P.D
CN1001
K CN5102 R4

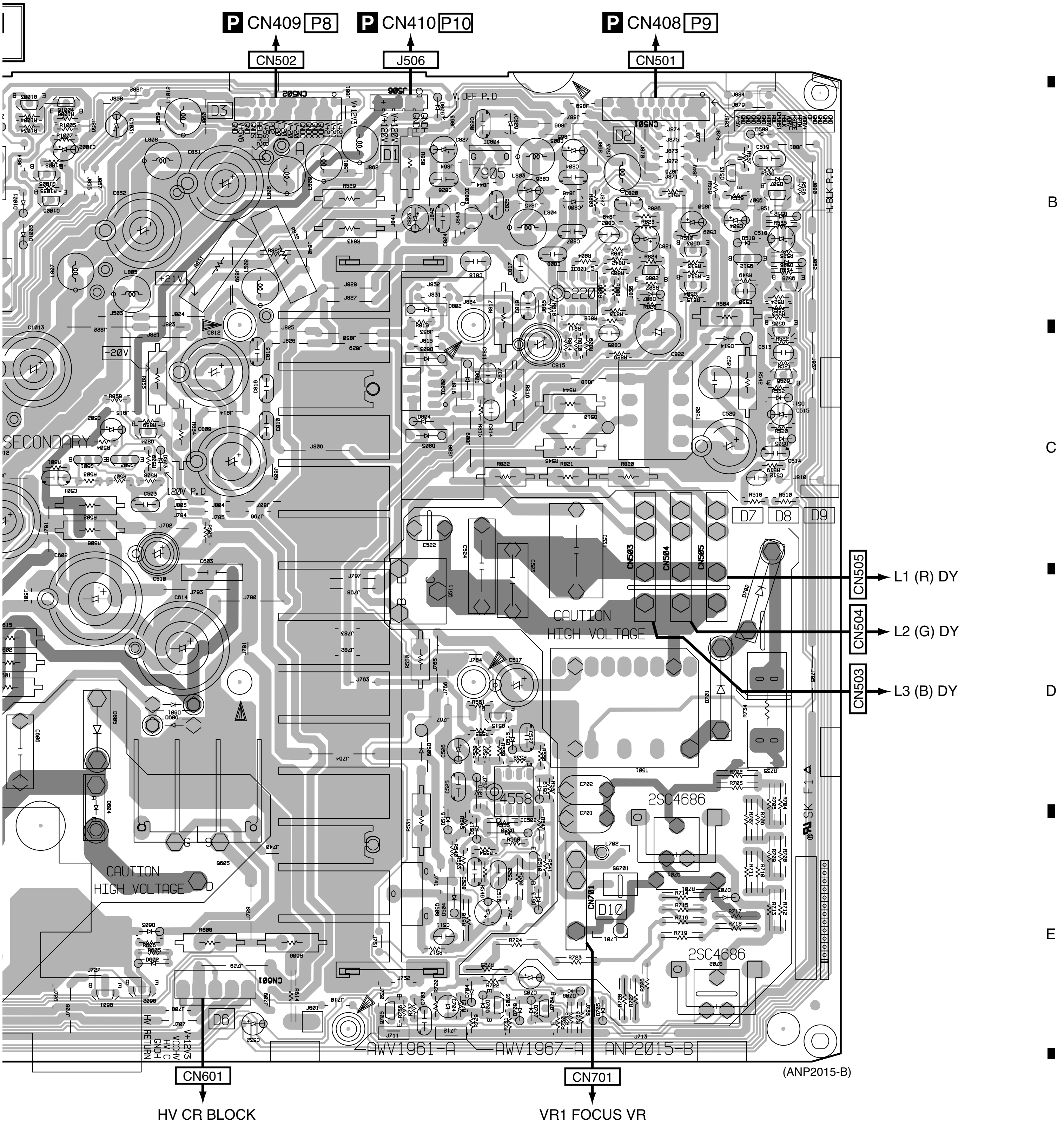
▭ Charged section

▬ mark shows a high voltage generation point.

VR1001 VR1002
VR601 VR602
IC902 IC901 Q1007 Q603 Q1003 – Q1006 Q5
Q9011 Q1010 Q1009 Q615 IC1001 Q1008 Q1001 Q1002 Q501
Q609 Q610 Q614 IC501 Q1012 Q601
Q608 Q607 Q613
Q616 Q604

N-b

SIDE A


P CN409 P8
P CN410 P10
P CN408 P9
CN502
J506
CN501
V.DEF P.D
7905
5220
H.BLK P.D
+21V
-20V
SECONDARY
120V P.D
D1
D2
D3
D6
D7
D8
D9
D10
CN503
CN504
CN505
L1 (R) DY
L2 (G) DY
L3 (B) DY
CAUTION
HIGH VOLTAGE
4558
2SC4686
2SC4686
CN701
CN601
V+12V3
VCCHV
HV C
GNDH
HV RETURN
AWV1961-A
AWV1967-A
ANP2015-B
(ANP2015-B)
HV CR BLOCK
VR1 FOCUS VR

Q1003 – Q1006 Q502 Q804
Q501 Q602 Q803
Q601
IC802 IC803 IC804
Q511
Q705
Q515 IC801
IC502 Q510
Q703 Q704
Q513 Q507
Q802 Q503 Q512 Q506
Q504 Q505
Q701 Q509
Q702

A

B

C

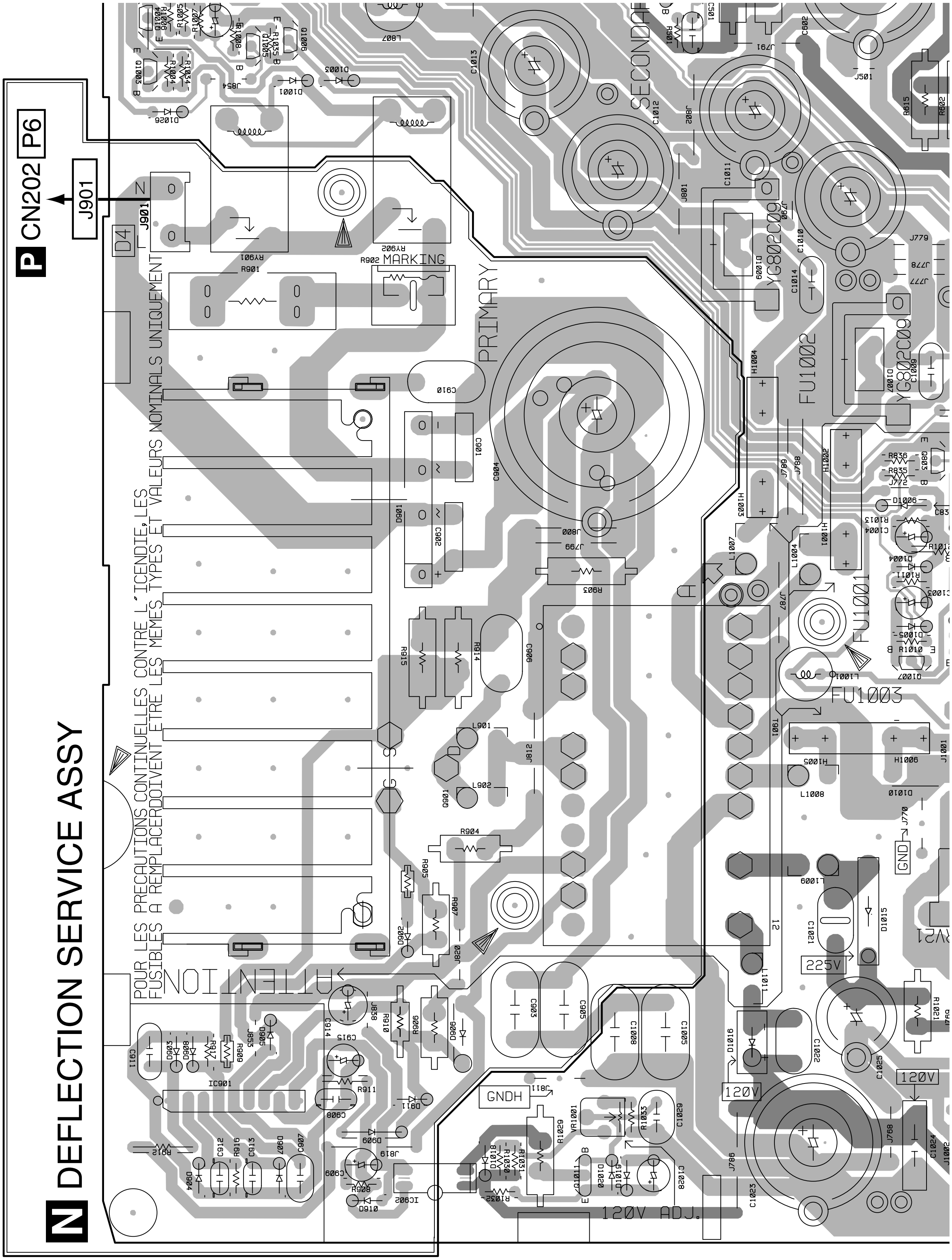
D

E

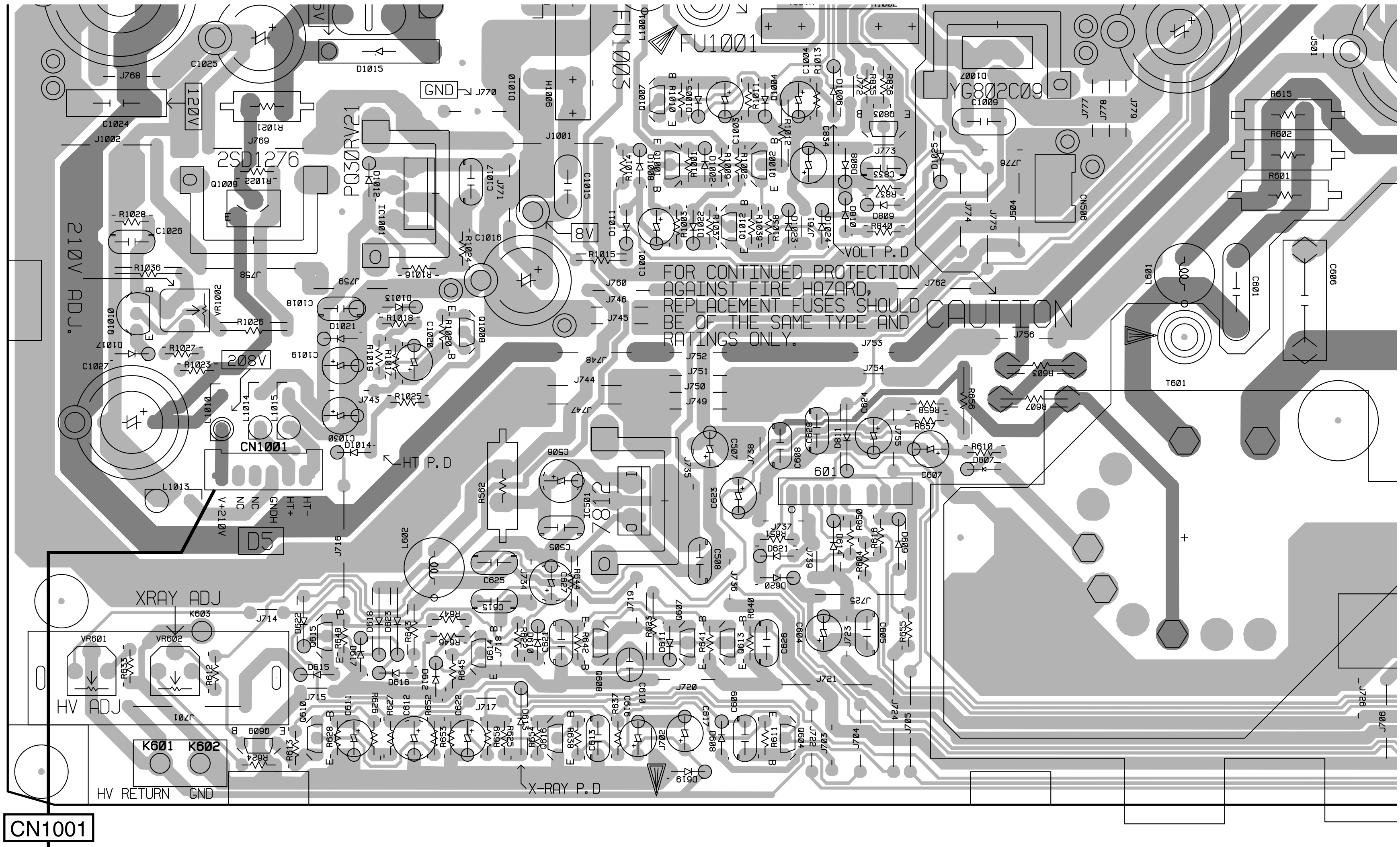
F

N-a N-b

N DEFLECTION SERVICE ASSY


P CN202 P6
J901
D4
ATTENTION
POUR LES PRECAUTIONS CONTINUELLES CONTRE L'ICENDIE, LES FUSIBLES A REMPLACER DOIVENT ETRE LES MEMES TYPES ET VALEURS NOMINALS UNIQUEMENT
PRIMARY
SECONDARY
MARKING
R901
R902
RY901
RY902
C910
C901
C902
C904
D901
R903
R904
R905
R906
R907
R910
R911
R914
R915
L901
L902
Q901
IC901
IC902
J799
J800
J812
J820
FU1001
FU1002
FU1003
YG802C09
H1001
H1002
H1003
H1004
H1005
H1006
L1001
L1007
L1008
L1009
C1021
C1022
C1023
C1024
C1025
D1015
D1016
R1021
R1029
R1033
VR1001
C1029
225V
120V
120V
120V ADJ.
GNDH
GND
IC1001

SIDE A


CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
FU1001
FU1003
VOLT P.D
HT P.D
X-RAY P.D
210V ADJ.
XRAY ADJ
HV ADJ
HV RETURN
GND
120V
208V
8V
D5
CN1001
HT-
HT+
GNDH
NC
NC
V+210V
2SD1276
PQ30RV21
YG802C09
7812
601
T601
VR601
VR602
VR1002
K601
K602
K603

CN1001

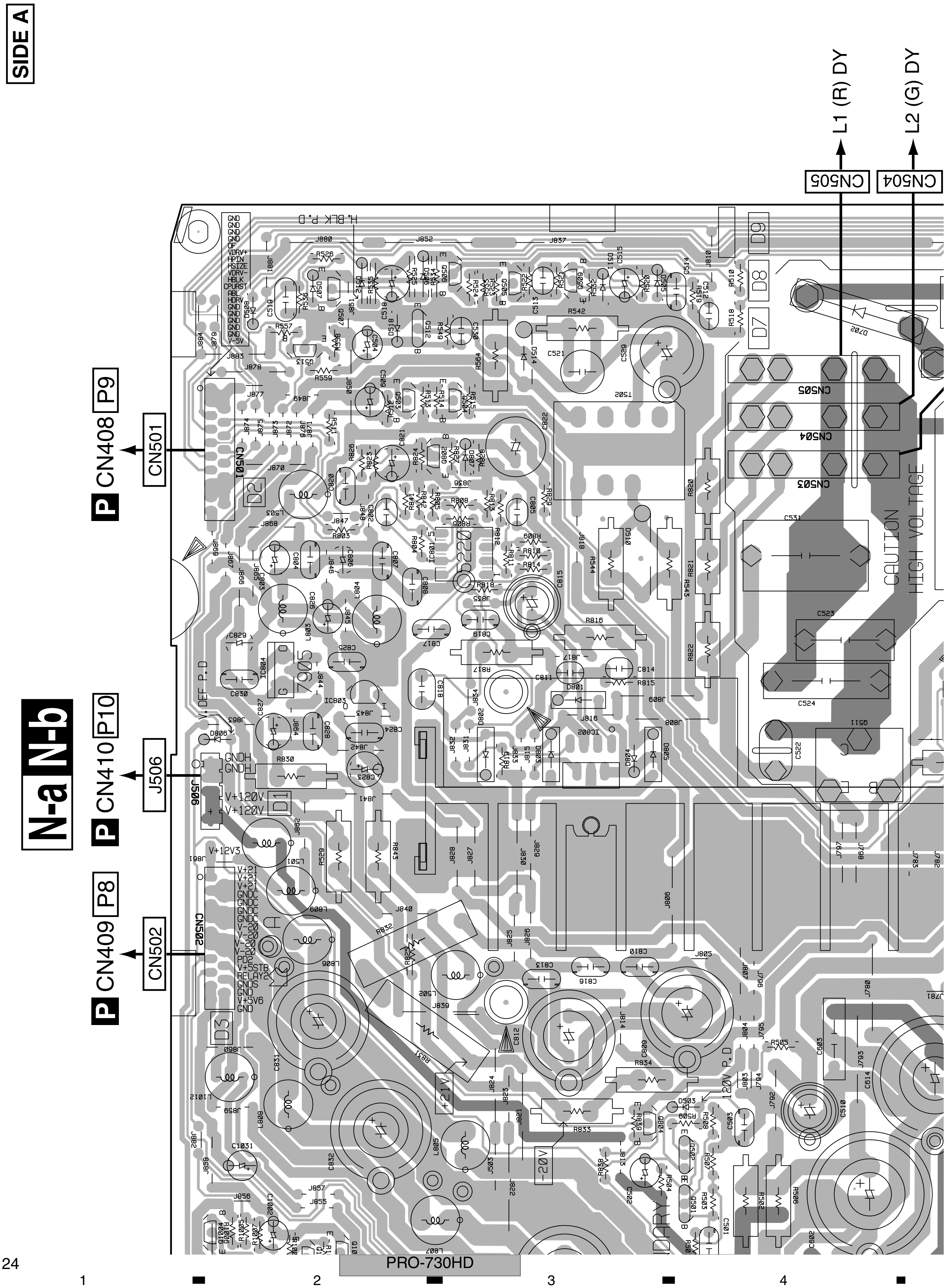
K CN5102 R4

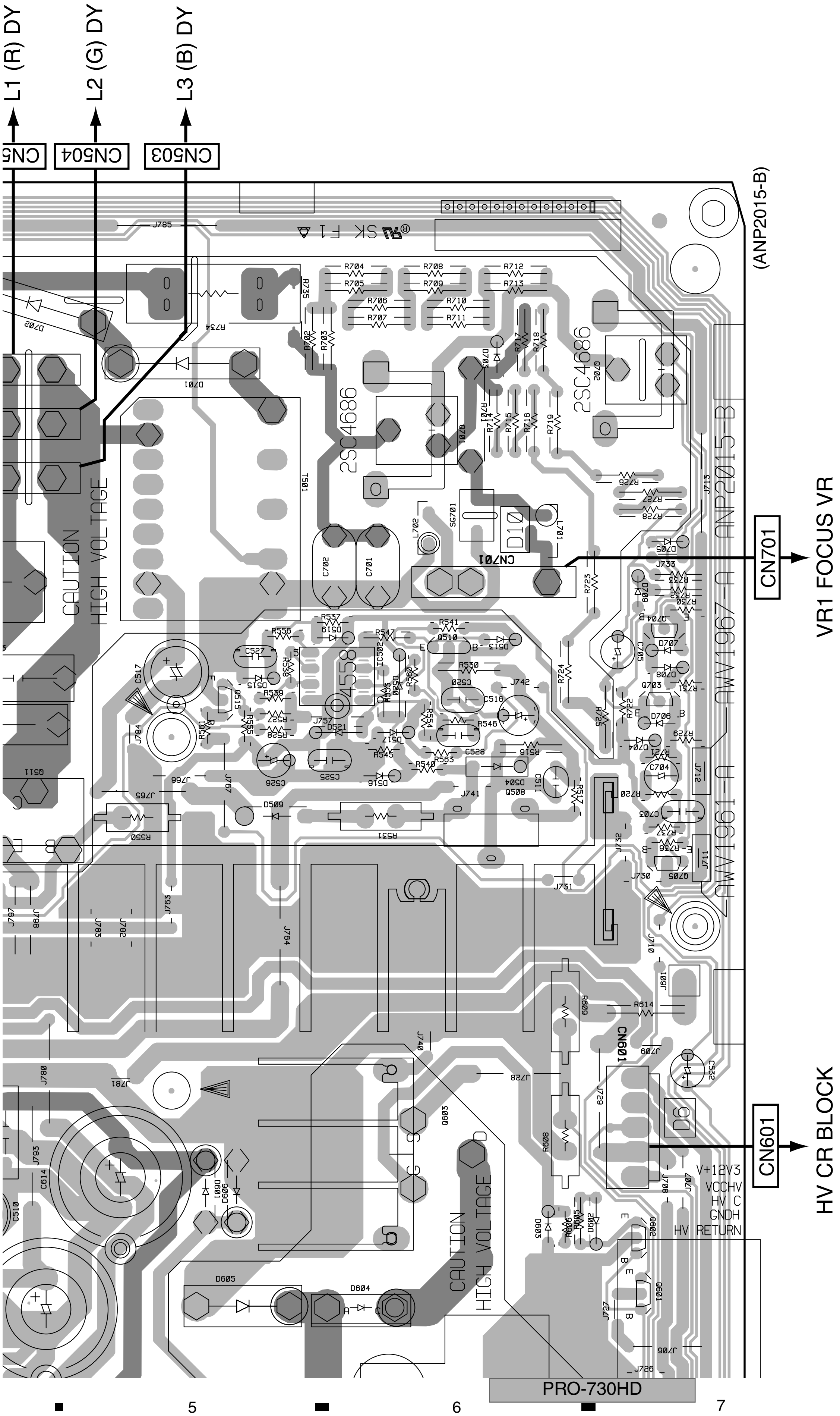
▭ Charged section

▬ mark shows a high voltage generation point.

VR601	VR1001 VR602 VR1002												
IC902 Q9011	IC901 Q1010	Q1009 Q609	Q615 Q610	IC1001	Q1008 Q614	Q616	Q608	Q1007 IC501	Q1001 Q607	Q1012 Q613	Q1002 Q604	Q603	Q1003 – Q10

N-a **N-b**


SIDE A
N-a N-b
P CN408 P9
CN501
P CN410 P10
J506
P CN409 P8
CN502
CN505
CN504
L1 (R) DY
L2 (G) DY
CN503
CAUTION HIGH VOLTAGE
H.BLK P.D
V.DEF P.D
120V P.D
GND
GND
GND
GND
OF
VDRV+
HPIN
HSIZE
VDRV-
HBLK
CPURST
ABL
HDRV
GND
GND
GND
GND
GND
V-5V
GNDH
GNDH
V+120V
V+120V
V+12V3
V+21
V+21
V+21
GNDC
GNDC
GNDC
GNDC
V-20
V-20
V-20
PD2
V+5STB
RELAY2
GNDS
GND
V+5V6
GND
+21V
-20V
D1
D2
D3
D7
D8
D9
T502
C531
C523
C524
C522
Q511
L501
L502
L503
L804
L805
L806
L807
L808
L809
L1012
IC802
IC803
IC804



L1 (R) DY
L2 (G) DY
L3 (B) DY
CN504
CN503
(ANP2015-B)
CAUTION HIGH VOLTAGE
2SC4686
T501
CN701
VR1 FOCUS VR
CN601
HV CR BLOCK
V+12V3
VCCHV
HV C
GNDH
HV RETURN
AWV1967-A
AWV1961-A
ANP2015-B
D605
D604
C517
C702
C701
IC502
4558
R531
R550
R608
R609
R614
C614
C510

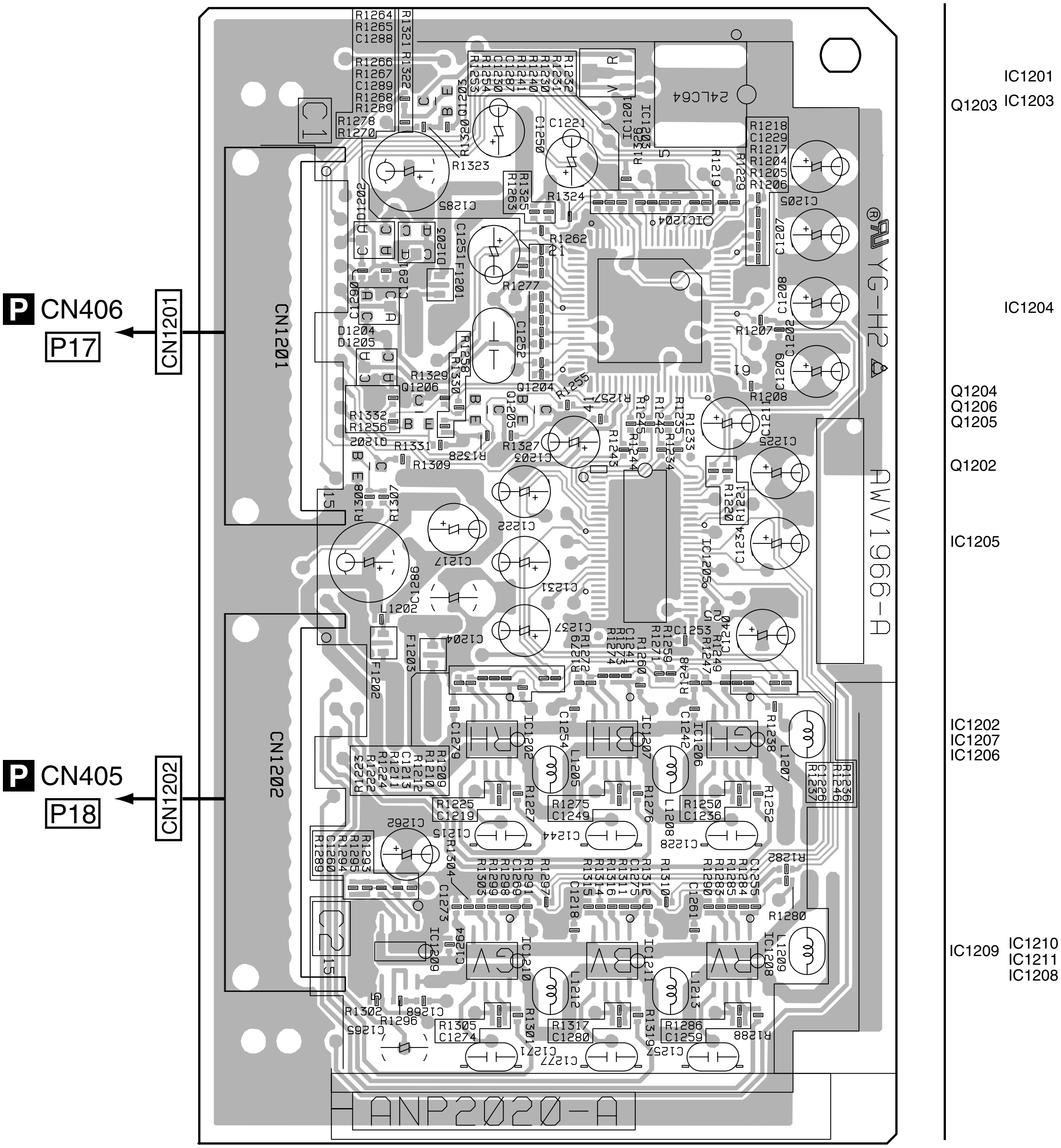
- Q1006 Q501
Q502 Q804 Q602 Q601
Q803
IC802 Q511 Q705
IC803 IC804
Q515 IC502 Q703
Q510 Q704
IC801
Q802
Q503 Q504 Q701
Q513 Q512 Q702
Q507 Q506 Q505 Q509

N-a N-b

4.11 DIGITAL CONV.ASSY

SIDE A **SIDE A**

O DIGITAL CONV. ASSY


P CN406
P17
CN1201
P CN405
P18
CN1202
24LC64
YG-H2
AWV1966-A
ANP2020-A
IC1201
Q1203 IC1203
IC1204
Q1204
Q1206
Q1205
Q1202
IC1205
IC1202
IC1207
IC1206
IC1209 IC1210
IC1211
IC1208

(ANP2020-A)

A

B

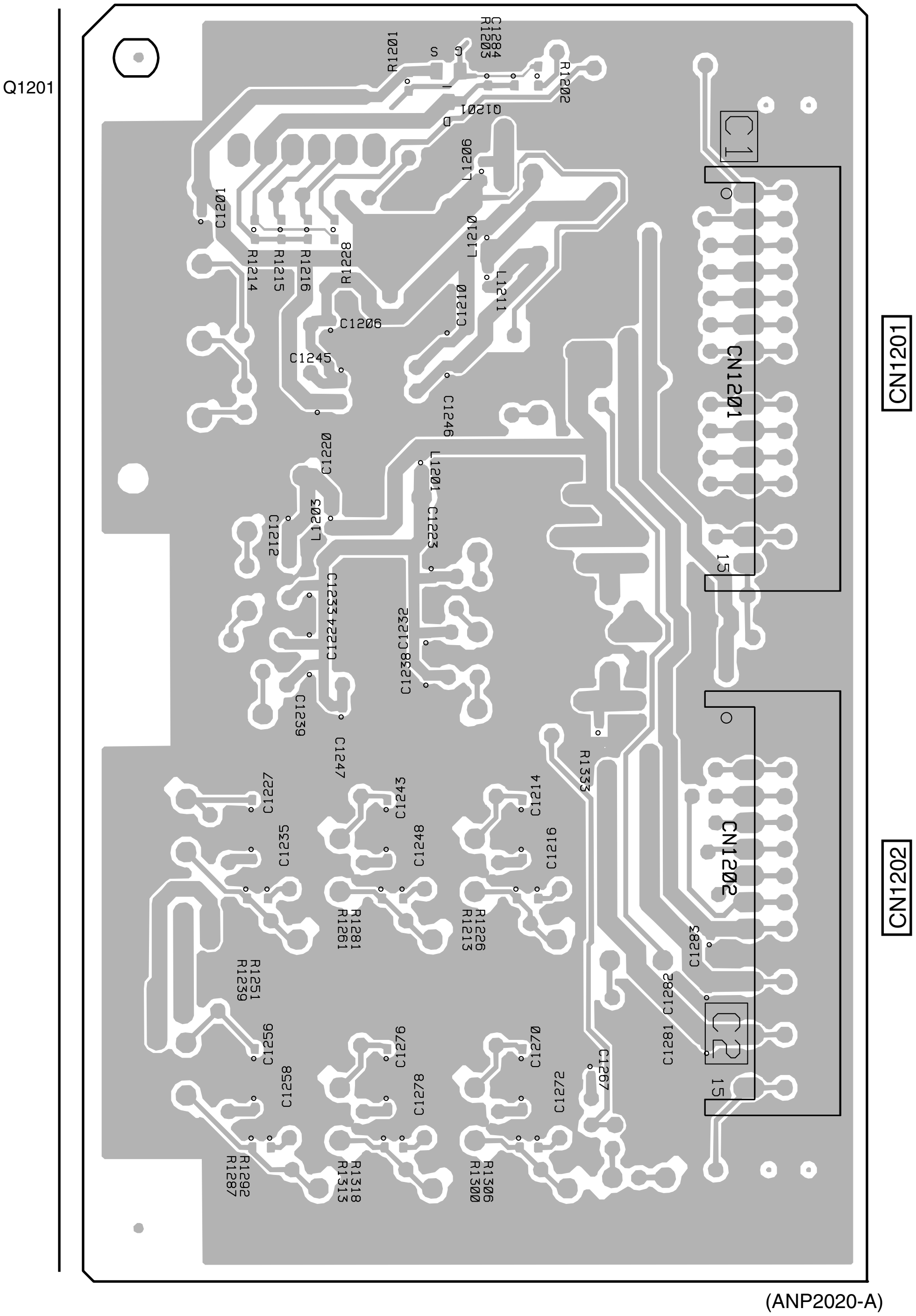
C

D

E

F

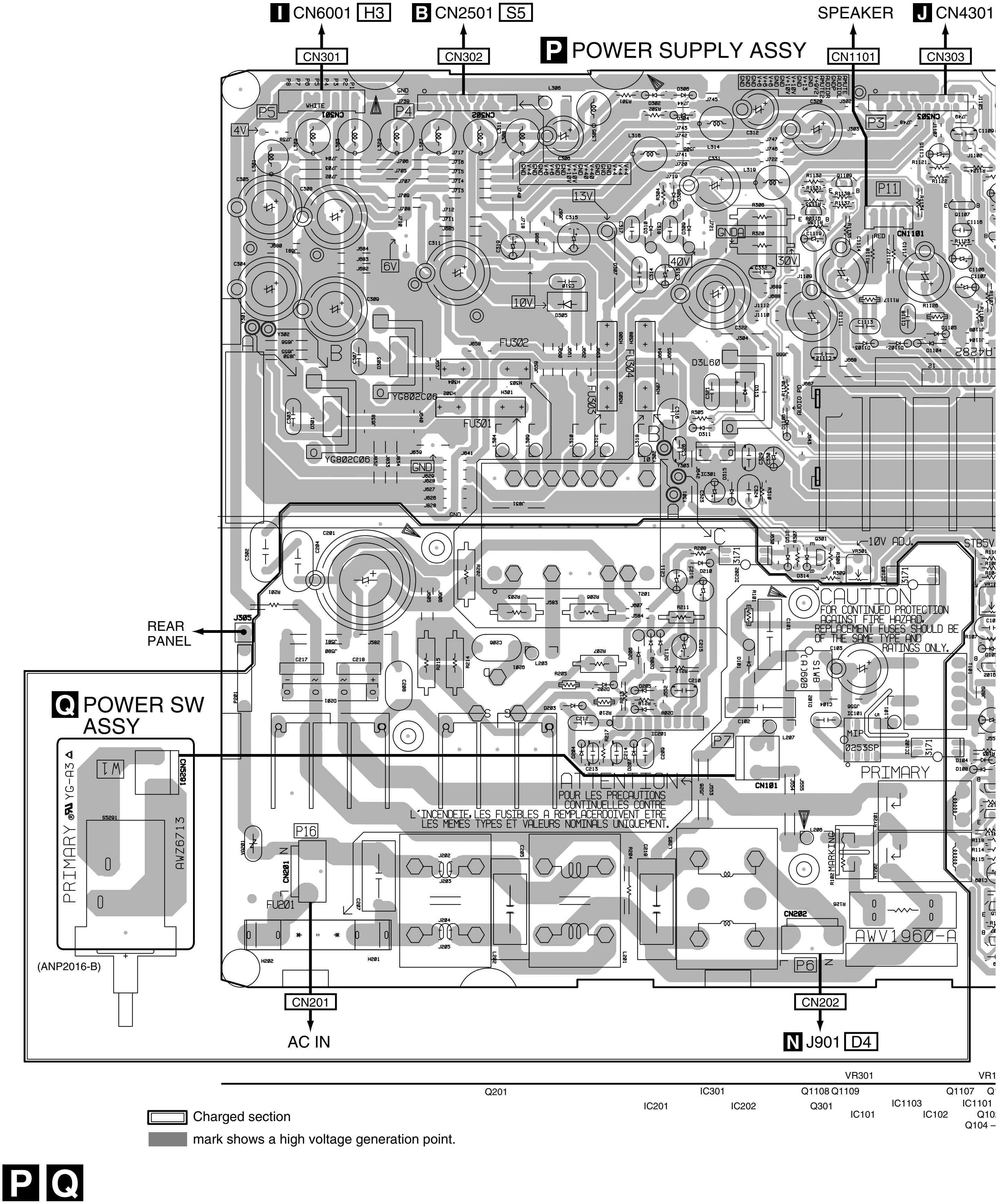
O DIGITAL CONV. ASSY


Q1201
C1284
R1203
R1201
R1202
S
G
Q1201
D
L1206
C1201
R1214
R1215
R1216
R1228
L1210
L1211
C1210
C1206
C1245
C1246
C1220
L1201
L1203
C1212
C1223
C1233
C1224
C1232
C1238
C1239
C1247
R1333
C1227
C1243
C1214
C1235
C1248
C1216
R1281
R1261
R1226
R1213
R1251
R1239
C1256
C1276
C1270
C1258
C1278
C1272
C1267
R1292
R1287
R1318
R1313
R1306
R1300
C1283
C1282
C1281
C1
C2
CN1201
CN1202
15
15
(ANP2020-A)

4.12 POWER SUPPLY and POWER SW ASSYS

SIDE A

P-a


I CN6001 H3
B CN2501 S5
SPEAKER
J CN4301
CN301
CN302
P POWER SUPPLY ASSY
CN1101
CN303
REAR PANEL
J305
Q POWER SW ASSY
CN5201
YG-A3
AWZ6713
PRIMARY
S5201
(ANP2016-B)
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
ATTENTION
POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INCENDEIE, LES FUSIBLES A REMPLACERDOIVENT ETRE LES MEMES TYPES ET VALEURS NOMINALS UNIQUEMENT.
PRIMARY
AWV1960-A
FU201
FU301
FU302
FU303
FU304
CN201
CN202
CN101
AC IN
N J901 D4
P3
P4
P5
P6
P7
P11
P16
4V
6V
10V
13V
30V
40V
GNDA
GND
10V ADJ.
STB5V
VR301
MIP 0253SP
YG802C06
D3L60
Q201
IC301
IC201
IC202
Q1108 Q1109
Q301
IC101
IC1103
IC102
Q1107
IC1101
Q104

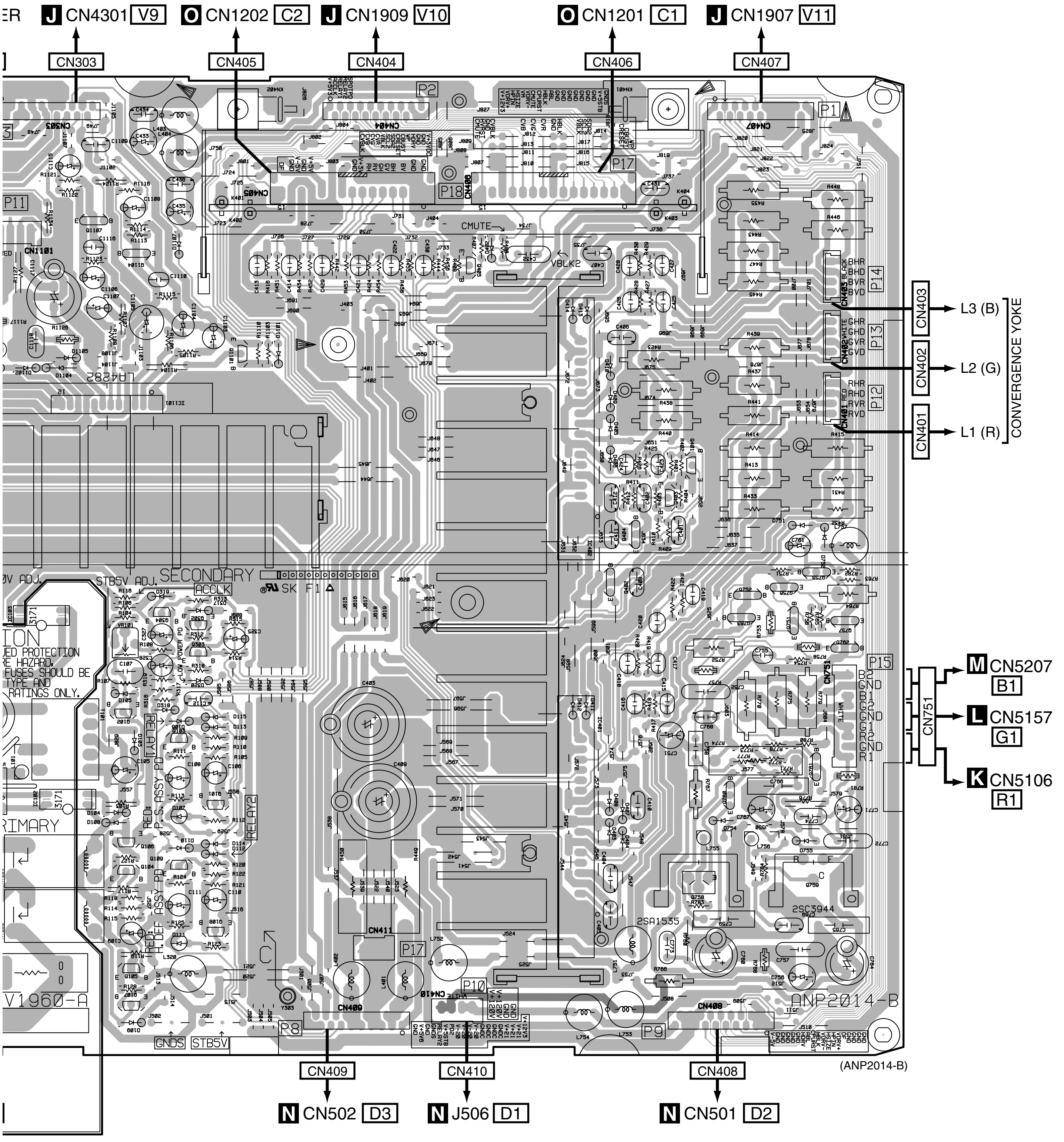
▭ Charged section

▨ mark shows a high voltage generation point.

P Q

P-b

SIDE A

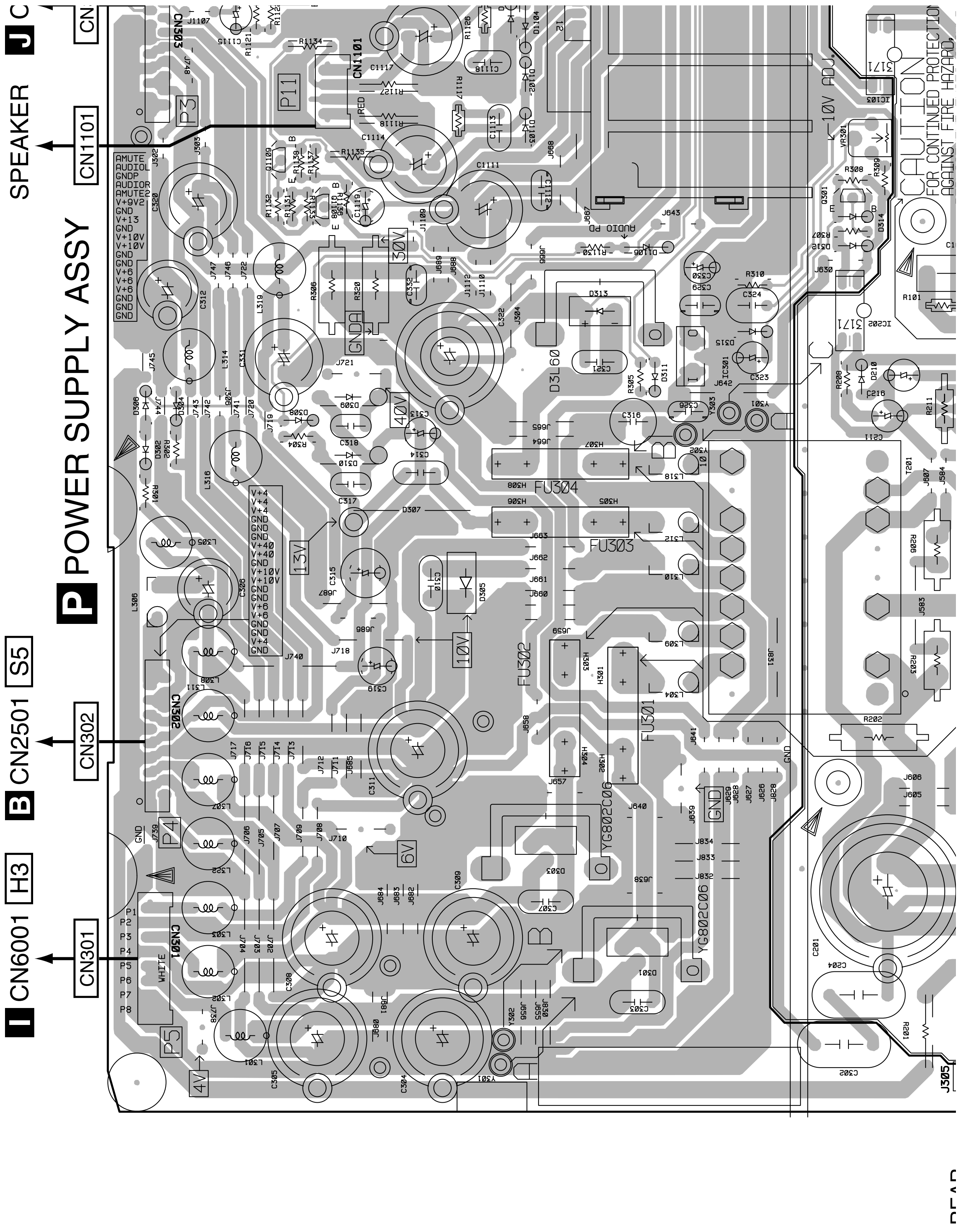

ER
J CN4301 V9
O CN1202 C2
J CN1909 V10
O CN1201 C1
J CN1907 V11
CN303
CN405
CN404
CN406
CN407
P2
P1
P17
P18
P11
P14
P13
P12
P15
CN1101
CMUTE
VBLK2
CN403
CN402
CN401
L3 (B)
L2 (G)
L1 (R)
CONVERGENCE YOKE
BHR
BHD
BVR
BVD
GHR
GHD
GVR
GVD
RHR
RHD
RVR
RVD
CN751
B2
GND
B1
G2
GND
G1
R2
GND
R1
M CN5207
B1
L CN5157
G1
K CN5106
R1
SECONDARY
SK F1
ACCLK
STB5V ADJ.
V ADJ.
RELAY1
RELAY2
PRIMARY
V1960-A
GNDS
STB5V
P8
P10
P9
P17
CN409
CN410
CN411
CN408
2SA1535
2SC3944
ANP2014-B
(ANP2014-B)
N CN502 D3
N J506 D1
N CN501 D2

VR101
Q1107 Q1104
IC1103 IC1101 Q304 Q302 Q1101
IC102 Q102 Q103 Q303
Q104 – Q107 Q109 Q108

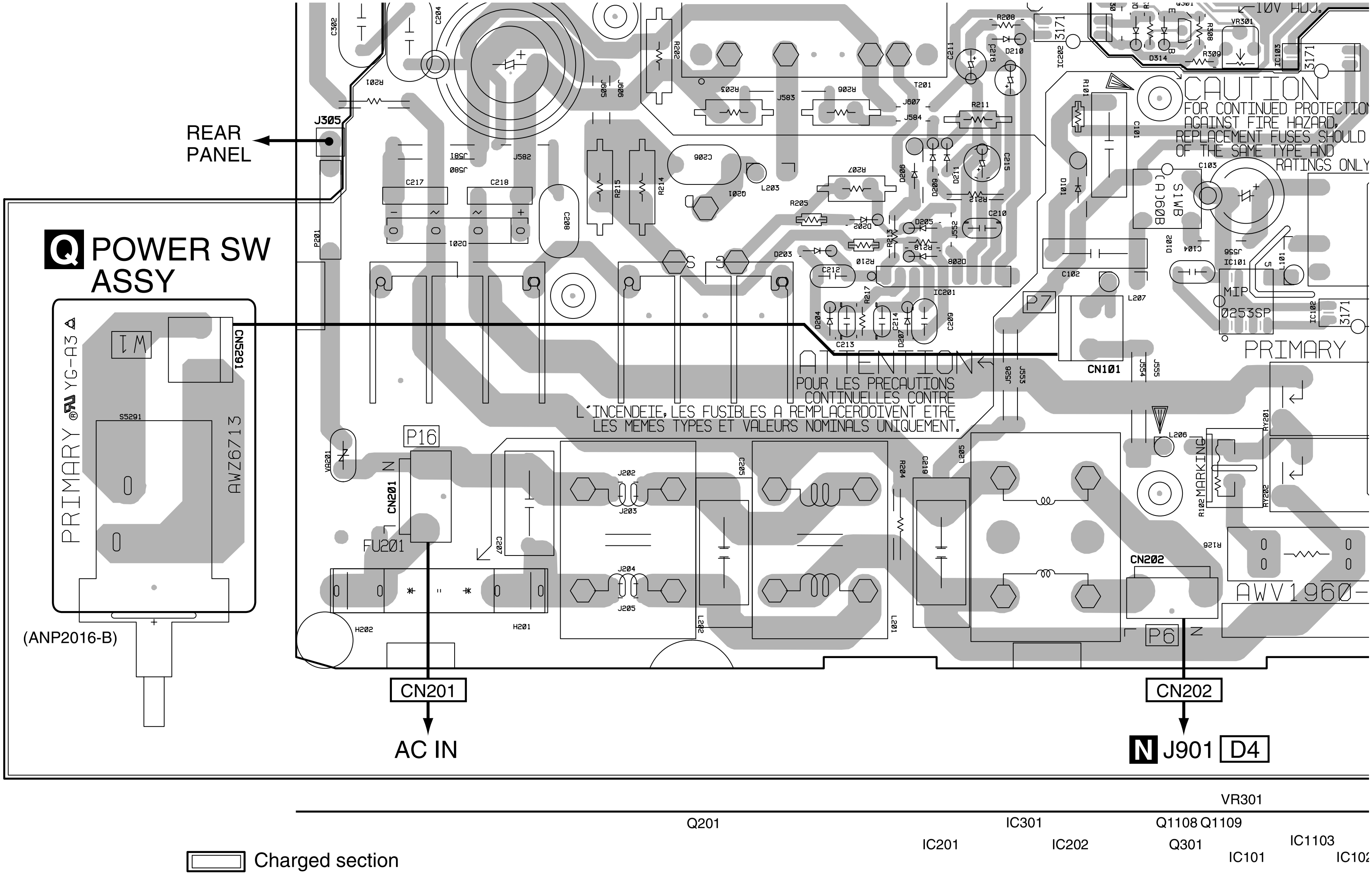
Q405

Q402 Q404 Q403 Q401 Q752 Q756 Q755
Q763 Q751 Q757
Q760 Q761 Q762
Q758 Q759

P-a P-b


P POWER SUPPLY ASSY
SPEAKER
CN1101
J C
CN
B CN2501
S5
CN302
I CN6001
H3
CN301
CN1101
CN302
CN301
CN303
AMUTE
AUDIOL
GNDP
AUDIOR
AMUTE2
V+9V2
GND
V+13
GND
V+10V
V+10V
GND
GND
GND
V+6
V+6
GND
GND
GND
V+4
V+4
V+4
GND
GND
GND
V+40
V+40
GND
V+10V
V+10V
GND
GND
V+6
V+6
GND
GND
V+4
GND
P1
P2
P3
P4
P5
P6
P7
P8
WHITE
RED
P3
P4
P5
P11
30V
40V
13V
10V
6V
4V
GNDA
GND
FU301
FU302
FU303
FU304
D3L60
YG802C06
YG802C06
AUDIO PD
10V ADJ.
CAUTION
FOR CONTINUED PROTECTION
AGAINST FIRE HAZARD,
3171
3171
IC301
IC101
IC202
VR301
T201
J305
REAR

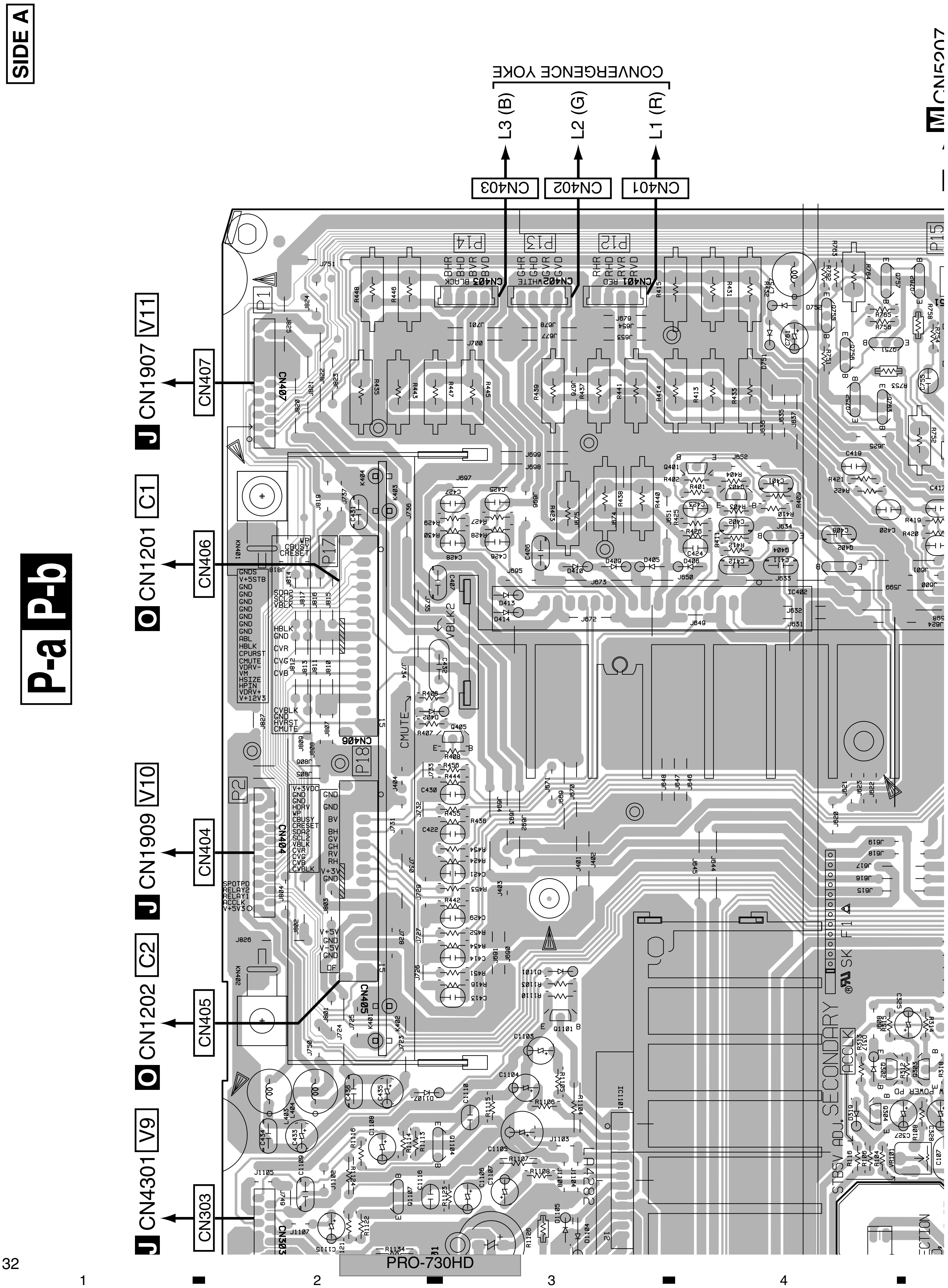
SIDE A


REAR PANEL
J305
Q POWER SW ASSY
CN5291
W1
S5291
AWZ6713
PRIMARY YG-A3
(ANP2016-B)
P16
CN201
FU201
AC IN
CN202
N J901 D4
P6
P7
CN101
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD OF THE SAME TYPE AND RATINGS ONLY
ATTENTION
POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INCENDEIE, LES FUSIBLES A REMPLACERDOIVENT ETRE LES MEMES TYPES ET VALEURS NOMINALS UNIQUEMENT.
PRIMARY
MIP 0253SP
S1WB (A)60B
MARKING
AWV1960
-10V ADJ.
VR301
Q201
IC301
IC201
IC202
Q1108 Q1109
Q301
IC1103
IC101
IC102

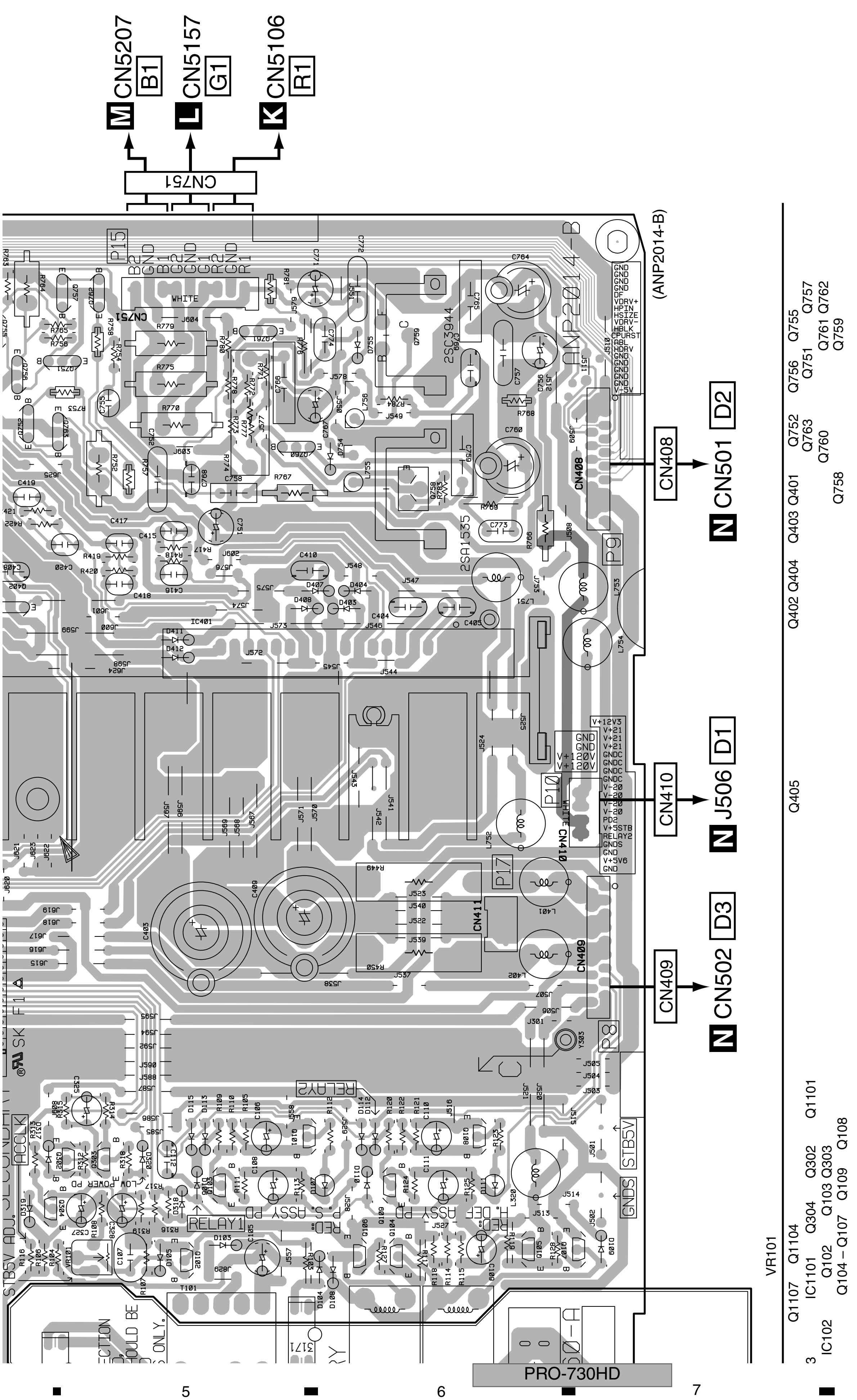
▭ Charged section

▨ mark shows a high voltage generation point.

P-a P-b


SIDE A
P-a P-b
CONVERGENCE YOKE
L1 (R)
L2 (G)
L3 (B)
CN401
CN402
CN403
CN407
J CN1907 V11
CN406
O CN1201 C1
CN404
J CN1909 V10
CN405
O CN1202 C2
CN303
J CN4301 V9
M CN5207
VBLK2
CMUTE
SECONDARY
STB5V ADJ.
ACCLK
POWER PD

P


M CN5207 B1
L CN5157 G1
K CN5106 R1
CN751
(ANP2014-B)
N CN501 D2
CN408
N J506 D1
CN410
N CN502 D3
CN409
Q755 Q757
Q751 Q761 Q762
Q759
Q756
Q752
Q763
Q760
Q401
Q758
Q403
Q404
Q402
Q405
Q1101
Q302 Q303 Q108
Q304 Q103 Q109
Q1104
Q102 Q104 – Q107
VR101
Q1107 IC1101
IC102
PRO-730HD

P-a P-b

5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
  Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

  560 → 56×10^1 → 561 .... RD1/4PU $\boxed{5}\boxed{6}\boxed{1}$ J
  47k Ω → 47×10^3 → 473 .... RD1/4PU $\boxed{4}\boxed{7}\boxed{3}$ J
  0.5 Ω → R50 .... RN2H $\boxed{R}\boxed{5}\boxed{0}$ K
  1 Ω → 1R0 .... RS1P $\boxed{1}\boxed{R}\boxed{0}$ K

  Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

  5.62k Ω → 562×10^1 → 5621 RN1/4PC $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F
- *Parts marked by ☆ are important parts which relate in X-rays radiation. If any of these parts need to be replaced, always replace with specified parts.*
- *Parts marked by X are important parts which relate in X-rays radiation. If a failure occurs in any of these parts, replace the printed circuit board assembly where the relevant part has already been adjusted as a working component. Do not replace the actual part itself. If any part marked by X is replaced, there is danger of being exposed to X-rays.*

LIST OF ASSEMBLIES

Mark	No. Description	Part No.
NSP	1..CRT DRIVE ASSY	AWV1962
	2..R CRT DRIVE ASSY	AWZ6709
	2..G CRT DRIVE ASSY	AWZ6710
	2..B CRT DRIVE ASSY	AWZ6711
	2..TUNER ASSY	AWZ6712
	2..POWER SW ASSY	AWZ6713
	2..D-SUB ASSY	AWZ6714
	2..FRONT INPUT ASSY	AWZ6715
NSP	1..SIGNAL ASSY	AWV1964
	2..SIGNAL ASSY	AWZ6716
	2..REMOTE SENSOR ASSY	AWZ6717
	2..FRONT CONTROL ASSY	AWZ6718
	2..LED RLS ASSY	AWZ6719
	2..BNC ASSY	AWZ6720
	1..VIDEO UCOM SERVICE ASSY	AWV1992
	1..DIGITAL CONV. ASSY	AWV1966
	1..POWER SUPPLY ASSY	AWV1960
☆	1..DEFLECTION SERVICE ASSY	AWV1967
	1..DVI SERVICE ASSY	AWV1983

A TUNER ASSY

• TUNER 1 BLOCK

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC5301	PQ05RD1B
	IC5302	PQ09RD1B
	Q5301,Q5302,Q5309	2SA933S
	Q5303,Q5305,Q5311	2SC1740S
	D5301	1SS133
	D5302	MTZJ33B

COILS AND FILTERS

Mark	No. Description	Part No.
	L5302,L5303	ATX1008

CAPACITORS

Mark	No. Description	Part No.
	C5319	CCCCH470J50
	C5304,C5306,C5308,C5312	CEAT100M50
	C5315	CEAT471M10
	C5311	CEAT471M6R3
	C5320,C5321	CKCYB102K50
	C5303,C5310,C5313,C5314,C5318	CKCYF103Z50
	C5322,C5327	CKCYF103Z50

RESISTORS

Mark	No. Description	Part No.
	R5318	RD1/2MMF271J
	R5322	RD1/2MMF332J
	Other Resistors	RD1/4PU###J

OTHERS

Mark	No. Description	Part No.
	J5301 4P HOUSING WIRE	ADX2797
	TV FRONT END SYSTEM UNIT	AXF1108

• TUNER 2 BLOCK

SEMICONDUCTORS

Mark	No. Description	Part No.
	Q5404	2SA933S
	Q5405	2SC1740S

COILS AND FILTERS

Mark	No. Description	Part No.
	L5401,L5402	ATX1008

CAPACITORS

Mark	No. Description	Part No.
	C5411	CCCCH470J50
	C5402,C5406	CEAT100M50
	C5409	CEAT471M10
	C5405	CEAT471M6R3
	C5412,C5413	CKCYB102K50
	C5404,C5407,C5408,C5410	CKCYF103Z50

RESISTORS

Mark	No. Description	Part No.
	Other Resistors	RD1/4PU###J

OTHERS

Mark	No. Description	Part No.
	CN5302 PLUG 44-P	AKM1155
	KN5401 GROUND PLATE	ANK-142
	TV FRONT END SYSTEM UNIT	AXF1103

Mark No. Description	Part No.

B SIGNAL ASSY

• AV I/O BLOCK

SEMICONDUCTORS

IC2201	CXA2069Q
IC2202,IC2203	MC14066BF
Q2202,Q2203,Q2205,Q2212,Q2213	2SA1162
Q2229	2SA1162
Q2204,Q2206-Q2210,Q2214-Q2217	2SC2712
Q2219-Q2228,Q2230	2SC2712
Q2201	HN1A01FU
Q2211,Q2218	HN1B04FU
D2201,D2203-D2207,D2210-D2214	1SS226
D2217-D2226	1SS226
D2202,D2208,D2215,D2216	1SS355

CAPACITORS

C2214,C2234,C2247,C2251	CEAT100M50
C2231	CEAT101M16
C2201	CEAT102M6R3
C2203,C2209-C2211,C2225,C2226	CEAT1R0M50
C2239,C2244,C2245,C2255,C2256	CEAT1R0M50
C2266,C2269	CEAT1R0M50
C2206,C2212,C2213,C2221,C2224	CEAT220M50
C2229,C2233,C2243,C2246,C2250	CEAT220M50
C2257,C2260,C2264,C2265	CEAT220M50
C2204,C2219,C2223	CEAT470M16
C2228	CEAT471M16
C2215,C2235,C2253,C2258	CEAT4R7M50
C2238,C2242,C2267,C2268	CKSQYB105K10
C2220,C2230,C2232,C2240,C2249	CKSRYB103K50
C2261	CKSRYB103K50
C2222,C2241,C2262,C2263	CKSRYB104K16
C2202,C2217,C2227,C2237,C2254	CKSRYF104Z16
C2259	CKSRYF104Z16

RESISTORS

R2255,R2256,R2317,R2318	DCN1092
R2207,R2208	RS1/10S151J
R2209,R2210,R2218,R2219	RS1/10S361J
R2344-R2346,R2355	RS1/10S361J
R2248,R2249,R2263,R2315,R2316	RS1/16S75R0F
R2321,R2363-R2365	RS1/16S75R0F
Other Resistors	RS1/16S###J

OTHERS

CN2203 PIN JACK(9P)	AKB1292
CN2201 PIN JACK(9P)	AKB1293
CN2202 4P MINI DIN SOCKET	AKP7011
CN2206,CN2208 PLUG 19-P	19P-250K-1.25FJNA
CN2207 SOCKET 44-P	AKP1186
CN2204 PLUG 12-P	KM250MA12B
CN2205 PLUG 4-P	KM250MA4R

• COMPONENT SW BLOCK

SEMICONDUCTORS

IC3901,IC3906	CXA2171Q
IC3907	M52055FP
Q3903,Q3905,Q3907,Q3912	2SA1162
Q3917-Q3919,Q3927,Q3928,Q3930	2SA1162
Q3932,Q3938	2SA1162
Q3901,Q3902,Q3909-Q3911,Q3913	2SC2712
Q3925,Q3926	2SC2712
Q3914	HN1B04FU
D3901-D3927	1SS226

COILS AND FILTERS

L3901	LCTA5R6J2520

CAPACITORS

C3934,C3937,C3992,C3995	CCSRCH100D50
C3939	CEAT101M10
C3940,C3954,C4007	CEAT101M16
C3906,C3907,C3917,C3919,C3921	CEAT220M50
C3971,C3973,C4001-C4005,C4008	CEAT470M16
C3958,C3972	CEAT4R7M50
C3930,C3931	CEANP101M10
C3901,C3902,C3910,C3911,C3916	CKSRYB103K50
C3918,C3920,C3929,C3938,C3941	CKSRYB103K50
C3950,C3953,C3963,C3986,C3996	CKSRYB103K50
C4006	CKSRYB103K50
C3926,C3984	CKSRYB104K16
C3909,C3928,C3952,C3985	CKSRYB105K6R3
C3903-C3905,C3908,C3912	CKSRYB474K10
C3922-C3925,C3927,C3932,C3933	CKSRYB474K10
C3935,C3936,C3943-C3948,C3951	CKSRYB474K10
C3964,C3975-C3978,C3983	CKSRYB474K10
C3990,C3991,C3993,C3994	CKSRYB474K10
C3998-C4000,C4009	CKSRYB474K10

RESISTORS

R3955,R4063	RS1/16S1002F
R3910,R3911,R3920,R3925,R3929	RS1/16S75R0F
R3943-R3945,R3953,R3970,R4035	RS1/16S75R0F
R4049,R4061,R4080,R4119-R4121	RS1/16S75R0F
Other Resistors	RS1/16S###J

OTHERS

CN3902 PIN JACK(6P)	AKB1294
X3901,X3902 CERAMIC OSCILLATOR	ASS1165
CN3905 PLUG 19-P	19P-250K-1.25FJNA
CN3904 PLUG 10-P	KM250MA10R
CN3903 PLUG 11-P	KM250MA11
CN3901 PLUG 8-P	KM250MA8B

• 3D Y/C SEP BLOCK

SEMICONDUCTORS

IC2504	PQ025EZ01ZP
IC2505	PQ033EZ01ZP
IC2502	PQ05DZ11
IC2501	PQ09DZ11
IC2503	UPD64083GF-3BA
Q2504,Q2506,Q2509	2SA1162
Q2501,Q2505,Q2507,Q2510	2SC2712
Q2512,Q2513,Q2515,Q2517	2SC2712
Q2502	HN1B04FU
Q2503,Q2508	HN1C01FU
D2501-D2504	1SS355

COILS AND FILTERS

F2501-F2504	ATF1194
L2503,L2505,L2507,L2508	ATH1108
L2510,L2515	LCTA100J2520
L2509,L2511	LCTA220J2520
L2501,L2512,L2514	LCTA5R6J2520
L2502,L2506	LFEA220J

Mark	No. Description	Part No.

CAPACITORS

	C2572	CCSRCH121J50
	C2527	CCSRCH150J50
	C2528	CCSRCH180J50
	C2533,C2534	CCSRCH270J50
	C2573	CCSRCH391J50
	C2550,C2558,C2581	CCSRCH470J50
	C2522	CCSRCH561J50
	C2549,C2571	CCSRCH680J50
	C2540	CCSRCH7R0D50
	C2551,C2559	CCSRCH820J50
	C2523	CCSRCH821J50
	C2526,C2557,C2574,C2575,C2579	CEAT101M10
	C2537,C2548	CEAT101M6R3
	C2505,C2507,C2508,C2583	CEAT102M10
	C2511,C2542,C2556,C2561	CEAT102M6R3
	C2565,C2566,C2570	CEAT102M6R3
	C2501,C2502,C2524	CEAT471M16
	C2516	CKSRYB102K50
	C2503,C2504,C2506,C2509,C2510	CKSRYB103K50
	C2512,C2513,C2517-C2520,C2525	CKSRYB103K50
	C2531,C2532,C2539,C2541,C2545	CKSRYB103K50
	C2547,C2553,C2554,C2560	CKSRYB103K50
	C2562-C2564,C2567-C2569,C2582	CKSRYB103K50
	C2552	CKSRYB104K16
	C2515,C2536	CKSRYB105K6R3
	C2521	CKSRYB473K50
	C2514,C2529,C2530,C2535,C2538	CKSRYF104Z16
	C2543,C2544,C2546	CKSRYF104Z16

RESISTORS

	R2564	RS1/16S1001F
	R2553	RS1/16S1201F
	R2537	RS1/16S1501F
	R2505,R2529	RS1/16S2001F
	R2576	RS1/16S2701F
	R2518	RS1/16S4300F
	R2551	RS1/16S6200F
	R2548,R2559,R2563,R2575	RS1/16S6800F
	R2577	RS1/16S9100F
	Other Resistors	RS1/16S###J

OTHERS

	X2501 CRYSTAL RESONATOR (20MHz)	ASS1143
	CN2501 SOCKET19-P	19RK-1.25FJN

• 2 LINE Y/C SEP BLOCK

SEMICONDUCTORS

	IC2701	TC90A45F
	Q2702,Q2705	2SA1162
	Q2701,Q2703,Q2704,Q2714	2SC2712

COILS AND FILTERS

	L2701	LFA120J
	L2703	LFEA101J
	L2704,L2706	LFEA220J

CAPACITORS

	C2746	CCSRCH100D50
	C2709,C2733	CCSRCH181J50
	C2744	CCSRCH220J50
	C2701,C2708	CCSRCH330J50

Mark	No. Description	Part No.
	C2745	CCSRCH390J50
	C2716,C2732	CEAT101M10
	C2713	CEAT1R0M50
	C2714,C2715,C2720-C2725,C2731	CKSRYB103K50

RESISTORS

	R2760	RS1/16S1201F
	R2758	RS1/16S2701F
	R2712	RS1/16S3900F
	R2704	RS1/16S4700F
	R2796	RS1/16S4701F
	R2798	RS1/16S5100F
	R2732	RS1/16S8200F
	R2795	RS1/16S9100F
	Other Resistors	RS1/16S###J

OTHERS

	CN2601,CN2701 PLUG 19-P	19P-250K-1.25FJNA

• SR BLOCK

SEMICONDUCTORS

	IC1801	SP3232ECY
	Q1802	HN1B04FU
	Q1801	HN1C01FU
	D1810,D1811,D1813	1SS355
	D1801-D1804	UDZ15B

CAPACITORS

	C1805,C1812,C1813	CEAT101M10
	C1806,C1807,C1814	CKSRYB103K50
	C1810	CKSRYB472K50
	C1801-C1804,C1811	CKSRYF104Z16

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

	CN1801 9P D-SUB SOCKET	AKP1213
	JA1801,JA1802 JACK/12V	PKN1004
	CN1802 PLUG 3-P	KM250MA3

C BNC ASSY

OTHERS

	J5041 8P HOUSING WIRE	ADX2790
	CN5040 BNC SOCKET	AKX1046

D FRONT CONTROL ASSY

SWITCHES AND RELAYS

	S5001-S5009	ASG7013

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

	J5001 6P HOUSING WIRE	ADX2792
	CN5001 PLUG 6-P	KM250MA6

E LED RLS ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q5002		2SA1162
	Q5001,Q5003		2SC2712
	D5001,D5005		1SS355
	D5003		SLR-56MG
	D5002		SLR-56VR
	PC5001		P1241-09

CAPACITORS

Mark	No.	Description	Part No.
	C5002		CEJA101M10
	C5003		CKSRYB103K50
	C5004		CEJA330M35

RESISTORS

Mark	No.	Description	Part No.
	VR5001	(47k)	VCP1160
	Other Resistors		RS1/16S###J

OTHERS

Mark	No.	Description	Part No.
		DPO HOLDER	AMR2294

F REMOTE SENSOR ASSY

CAPACITORS

Mark	No.	Description	Part No.
	C5031		CCSRCH121J50
	C5030		CEAT221M6R3

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RS1/16S###J

OTHERS

Mark	No.	Description	Part No.
	CN5030	PLUG 3-P	KM250MA3
	X5030	REMOTE SENSOR UNIT	GPIU28X

G FRONT INPUT ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q5251,Q5252		2SC1740S

CAPACITORS

Mark	No.	Description	Part No.
	C5252,C5253		CEJA1R0M50
	C5254		CEJA470M16
	C5251,C5255		CKCYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R5251,R5253,R5254		RN1/4PC75R0F
	Other Resistors		RD1/4PU###J

OTHERS

Mark	No.	Description	Part No.
	CN5251	PINJACK(3P) WITH SIN	AKB1261
	CN5252	PLUG 12-P	KM250MA12

H D-SUB ASSY

RESISTORS

Mark	No.	Description	Part No.
	R5277-R5279		RN1/4PC75R0F
	Other Resistors		RD1/4PU###J

OTHERS

Mark	No.	Description	Part No.
	J5271	11P HOUSING WIRE	ADX2791
	CN5272	15P D-SUB SOCKET	AKP1214

I DVI SERVICE ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC6003,IC6014		24LC02B(I)SN
	IC6016		CXA1875AM
	IC6005,IC6006		PQ033EZ01ZP
	IC6010		PQ05DZ51
	IC6009		PQ12DZ11
	IC6001,IC6012		PST9228N
	IC6007,IC6018		SII907BCQ52
	IC6011		SM5301AS
	IC6004		TC74HC08AF
	IC6008		TC74HC126AF
	IC6019,IC6020		TC74HC4053AF
	IC6021		TC74HC4066AF
	IC6015		TC74HCT04AF
	Q6016-Q6018,Q6028,Q6029		2SA1162
	Q6031-Q6033		2SA1162
	Q6003-Q6005,Q6010,Q6023-Q6026		2SC2712
	Q6034,Q6035		2SC2712
	Q6001,Q6002,Q6021,Q6022		HN1C01FU
	D6008,D6032		1SS184
	D6009,D6010,D6022,D6025		1SS226
	D6033,D6034,D6049,D6050		1SS226
	D6002-D6004,D6006,D6007		1SS355
	D6011,D6012,D6014,D6016,D6017		1SS355
	D6023,D6028-D6031,D6035,D6052		1SS355
	D6069		1SS355
	D6001,D6005,D6013,D6027		RD6.8MB

COILS AND FILTERS

Mark	No.	Description	Part No.
	F6001,F6002		ATF1194

CAPACITORS

Mark	No.	Description	Part No.
	C6013,C6015,C6018,C6032,C6046		CCSRCH101J50
	C6049,C6050,C6068,C6072		CCSRCH101J50
	C6076,C6077,C6079,C6080,C6086		CCSRCH101J50
	C6088,C6090,C6139,C6141,C6144		CCSRCH101J50
	C6152,C6155,C6156,C6166,C6169		CCSRCH101J50
	C6173,C6174,C6178,C6181,C6183		CCSRCH101J50
	C6185		CCSRCH101J50
	C6005,C6134		CCSRCH471J50
	C6001,C6020,C6121,C6146		CEAT100M50
	C6119,C6208		CEAT101M16
	C6101,C6111,C6197,C6202		CEAT1R0M50
	C6040,C6044,C6058,C6062		CEAT221M16
	C6074,C6188		CEAT221M6R3
	C6007,C6081,C6113,C6148,C6195		CEAT470M16
	C6200,C6204		CEAT470M16
	C6027,C6063,C6091-C6093		CKSRYB105K6R3
	C6115-C6117		CKSRYB105K6R3
	C6003,C6123		CKSRYB472K50
	C6019,C6095,C6107,C6127,C6129		CKSRYF103Z50
	C6145		CKSRYF103Z50
	C6002,C6004,C6008-C6012,C6014		CKSRYF104Z16
	C6016,C6017,C6021-C6026,C6028		CKSRYF104Z16
	C6031,C6035-C6039,C6041-C6043		CKSRYF104Z16
	C6045,C6047,C6048,C6055-C6057		CKSRYF104Z16
	C6059-C6061,C6066,C6067		CKSRYF104Z16
	C6070,C6071,C6073,C6075,C6078		CKSRYF104Z16

Mark	No. Description	Part No.
	C6082,C6084,C6085,C6087,C6089	CKSRYF104Z16
	C6096-C6100,C6108,C6112,C6114	CKSRYF104Z16
	C6122,C6124,C6131-C6133	CKSRYF104Z16
	C6136-C6138,C6140,C6142,C6143	CKSRYF104Z16
	C6147,C6151,C6157-C6160	CKSRYF104Z16
	C6163-C6165,C6170-C6172,C6177	CKSRYF104Z16
	C6179,C6182,C6184,C6186,C6187	CKSRYF104Z16
	C6189-C6194,C6196,C6201,C6203	CKSRYF104Z16
	C6206,C6207,C6209-C6212	CKSRYF104Z16

RESISTORS

Mark	No. Description	Part No.
	R6036	RD1/4MUF100J
	R6108,R6307	RS1/16S1002F
	R6060,R6257	RS1/16S1500F
	R6172	RS1/16S2701F
	R6138	RS1/16S3001F
	R6354	RS1/16S3902F
	R6109,R6274	RS1/16S4300F
	R6343	RS1/16S4702F
	R6059,R6076,R6077,R6122	RS1/16S75R0F
	R6126-R6128,R6145,R6160-R6162	RS1/16S75R0F
	R6178,R6246,R6256,R6260	RS1/16S75R0F
	R6132	RS1/16S8200F
	VR6001 (2.2k)	ACP1090
	Other Resistors	RS1/16S###J

OTHERS

Mark	No. Description	Part No.
	J6001 4P HOUSING WIRE	ADX2798
	CN6002,CN6006 DVI SOCKET (24P)	AKP1216
	KN6001-KN6003 GROUND PLATE	ANK-142
	CN6005 L-PLUG(10P)	KM250MA10L
	CN6001 L-PLUG(8P)	KM250MA8L
	JA6001,JA6002 2P JACK	PKB1035

J VIDEO UCOM SERVICE ASSY

• UCOM BLOCK

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC1903	24LC32A(I)P
	IC1905	M62399FP
	IC1906	PD5815D8
	IC1902	PQ033EZ01ZP
	IC1908	PST9228N
	IC1904,IC1907	TC74VHCT541AFT
	Q1905-Q1907,Q1912,Q1916	2SA1162
	Q1903,Q1908-Q1911,Q1913,Q1914	2SC2712
	Q1917-Q1919	2SC2712
	Q1901	2SJ461
	Q1902,Q1904	HN1B04FU
	D1902-D1904,D1907,D1908	1SS226
	D1910,D1911,D1913,D1921,D1924	1SS226
	D1928-D1936	1SS226
	D1901,D1912,D1914,D1916,D1917	1SS355
	D1919,D1920,D1923,D1926	1SS355
	D1909	RD6.8MB
	D1918	UDZ3.6B
	D1915	UDZS5.6B

CAPACITORS

Mark	No. Description	Part No.
	C1921,C1931	CCSRCH221J50
	C1935	CCSRCK2R0C50
	C1952	CEANP101M16

Mark	No. Description	Part No.
	C1912,C1913,C1915	CEAT100M50
	C1904,C1938	CEAT102M6R3
	C1943,C1945	CEAT4R7M50
	C1920,C1930,C1949	CKSRYB102K50
	C1908,C1911,C1914,C1916	CKSRYB103K50
	C1918,C1919,C1926,C1939,C1948	CKSRYB103K50
	C1922,C1932	CKSRYB105K6R3
	C1936	CKSRYB153K50
	C1946	CKSRYB472K50
	C1927,C1929,C1950,C1951	CKSRYB561K50
	C1902,C1903,C1905,C1907,C1909	CKSRYF104Z16
	C1923-C1925,C1928,C1933,C1934	CKSRYF104Z16
	C1937,C1940,C1942,C1947	CKSRYF104Z16

RESISTORS

Mark	No. Description	Part No.
	R1902,R1903,R1907,R1908,R1937	DCN1092
	R1944,R1947,R1950-R1952	DCN1092
	R1963-R1965,R1971,R1972,R1978	DCN1092
	R1989,R2000,R2004-R2007,R2027	DCN1092
	R1916	RS1/16S1001F
	R1931	RS1/16S1002F
	R1932	RS1/16S3002F
	R1980,R1983,R1986	RS1/16S3901F
	R1979,R1982,R1985	RS1/16S6800F
	Other Resistors	RS1/16S###J

OTHERS

Mark	No. Description	Part No.
	X1901 CERAMIC RESONATOR (16MHz)	ASS1159
	CN1903 PLUG 8-P	CKS3130
	CN1901 PLUG 10-P	KM250MA10
	CN1908 PLUG 11-P	KM250MA11
	CN1905 PLUG 3-P	KM250MA3
	CN1904 PLUG 6-P	KM250MA6
	CN1902 PLUG 9-P	KM250MA9
	CN1906,CN1907,CN1909 SOCKET19-P	19RK-1.25FJN

• AFC BLOCK

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC2804,IC2805	M52055FP
	IC2802	PQ018EZ01ZP
	IC2801,IC2809	PQ033EZ01ZP
	IC2808	PQ09DZ11
	IC2803,IC2806	TA1340F
	IC2807	TC74ACT04FT
	Q2803,Q2807,Q2809-Q2811,Q2816	2SA1162
	Q2821,Q2825,Q2829-Q2831,Q2834	2SA1162
	Q2801,Q2804,Q2805,Q2808,Q2814	2SC2712
	Q2817,Q2822,Q2824,Q2826,Q2828	2SC2712
	Q2832,Q2835,Q2839,Q2843,Q2844	2SC2712
	Q2818-Q2820,Q2836-Q2838	2SC4213
	Q2840-Q2842	HN1B04FU
	Q2806,Q2812,Q2815,Q2823,Q2827	HN1C01FU
	Q2833	HN1C01FU
	D2801-D2806	1SS355

COILS AND FILTERS

Mark	No. Description	Part No.
	L2803,L2805,L2808,L2811,L2812	LFA5R6J
	L2815,L2818	LFA5R6J
	L2801	LFEA220J

Mark	No.	Description	Part No.
	L2806,L2809,L2813,L2816,L2819		LFEA4R7J

CAPACITORS

Mark	No.	Description	Part No.
	C2820,C2870		CCSRCH100D50
	C2840,C2895		CCSRCH120J50
	C2831		CCSRCH220J50
	C2946,C2947		CCSRCH221J50
	C2844,C2859,C2868,C2869,C2873		CCSRCH330J50
	C2897,C2911,C2930-C2937		CCSRCH330J50
	C2845,C2860,C2874,C2898,C2912		CCSRCH331J50
	C2832,C2833,C2846,C2861,C2875		CCSRCH470J50
	C2899,C2913		CCSRCH470J50
	C2825,C2829,C2881,C2887		CEAT101M10
	C2801,C2805,C2806,C2810,C2958		CEAT102M6R3
	C2827,C2893		CEAT1R0M50
	C2854-C2856,C2908-C2910		CEAT220M50
	C2950,C2954		CEAT221M16
	C2811,C2812,C2823,C2824,C2834		CEAT470M10
	C2837,C2851,C2862,C2866,C2867		CEAT470M10
	C2871,C2876,C2880,C2889,C2890		CEAT470M10
	C2914		CEAT470M10
	C2802-C2804,C2807-C2809,C2817		CKSRYB103K50
	C2826,C2828,C2830,C2838,C2843		CKSRYB103K50
	C2850,C2858,C2865,C2872,C2879		CKSRYB103K50
	C2882,C2888,C2892,C2894,C2896		CKSRYB103K50
	C2902,C2906,C2907,C2918,C2921		CKSRYB103K50
	C2924,C2949,C2951-C2953		CKSRYB103K50
	C2955-C2957		CKSRYB103K50
	C2813-C2816,C2852,C2857		CKSRYB104K16
	C2883-C2886,C2903		CKSRYB104K16
	C2841,C2904		CKSRYB222K50
	C2842,C2905		CKSRYB224K10

RESISTORS

Mark	No.	Description	Part No.
	R2838,R2852,R2898,R2917,R2946		RS1/16S1201F
	R2990,R2993,R2996,R2999		RS1/16S1201F
	R2983,R2984,R2986,R2987,R2989		RS1/16S1501F
	R2992,R2995,R2998		RS1/16S1501F
	R2815,R2899		RS1/16S1602F
	R2834,R2869,R2902,R2916,R2944		RS1/16S2200F
	R2822,R2903		RS1/16S3000F
	R2835,R2870,R2923,R2949		RS1/16S3300F
	R2874,R2952		RS1/16S3301F
	R2812,R2837,R2872,R2905,R2925		RS1/16S5600F
	R2945		RS1/16S5600F
	R2825,R2907		RS1/16S5601F
	R2811		RS1/16S6800F
	R2853,R2947		RS1/16S8201F
	R2801		RS2MMF2R2J
	Other Resistors		RS1/16S###J

OTHERS

Mark	No.	Description	Part No.
	X2801,X2803	CERAMIC RESONATOR (3.5MHz)	ASS1019
	X2802,X2804	CRYSTAL RESONATOR	ASS1091
	CN2801,CN2803	SOCKET19-P	19RK-1.25FJN
	CN2802,CN2804	22P CONNECTOR	AKP1228

• SHARPNESS BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC4301		AN5395FBP
	IC4305,IC4306		M52055FP
	IC4302,IC4303,IC4307		PQ05DZ11
	IC4304		PQ09DZ11
	Q4306,Q4307,Q4330		2SA1162
	Q4310,Q4311,Q4331,Q4332		2SC2712
	Q4301,Q4302,Q4309		HN1B04FU
	Q4303		HN1C01FU
	D4301-D4304		1SS355

COILS AND FILTERS

Mark	No.	Description	Part No.
	F4302		ATF1194
	L4304-L4306		ATH1108
	L4307		LCTA4R7J2520
	L4310,L4312		LFA1R5J
	L4302,L4311		LFA5R6J
	L4301		LFA820J

CAPACITORS

Mark	No.	Description	Part No.
	C4365-C4367		CCSRCH101J50
	C4369		CCSRCH270J50
	C4310		CCSRCH470J50
	C4302		CCSRCH560J50
	C4337,C4342,C4343		CEANP470M25
	C4315		CEAT100M50
	C4349,C4350		CEAT101M16
	C4323,C4324,C4335,C4348		CEAT102M10
	C4326,C4329,C4376,C4380,C4382		CEAT102M6R3
	C4336,C4338,C4341,C4344,C4345		CEAT470M16
	C4347,C4351,C4353,C4354		CEAT470M16
	C4360,C4361		CEAT470M16
	C4333,C4362		CEAT471M16
	C4303-C4309,C4311,C4312,C4314		CKSRYB103K50
	C4316,C4317,C4319-C4322,C4325		CKSRYB103K50
	C4327,C4328,C4330,C4334		CKSRYB103K50
	C4339,C4340,C4346,C4352,C4359		CKSRYB103K50
	C4363,C4370,C4371,C4373		CKSRYB103K50
	C4377-C4379		CKSRYB103K50
	C4318		CKSRYB105K10
	C4355-C4358		CKSRYB224K10

RESISTORS

Mark	No.	Description	Part No.
	R4306,R4307		RS1/16S1001F
	R4322		RS1/16S1501F
	R4301,R4303		RS1/16S2001F
	R4514		RS1/16S3901F
	Other Resistors		RS1/16S###J

OTHERS

Mark	No.	Description	Part No.
	CN4301	SOCKET19-P	19RK-1.25FJN

• VIDEO BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC4609		AD8057ART
	IC4604		BA7655AF
	IC4606		CXA2153S
	IC4608		CXA2180Q
	IC4601		M52055FP
	IC4611		NJM319M
	IC4605		PQ12DZ11
	IC4610		TC74HC126AF
	IC4602		TC74HC4053AF
	IC4612-IC4614		TC7SB66FU

Mark	No.	Description	Part No.
	IC4615		TC7SET08FU
	IC4603		TC7W53FU
	Q4601,Q4606-Q4608,Q4613,Q4619		2SA1162
	Q4632,Q4633,Q4648,Q4654		2SA1162
	Q4645		2SA1669
	Q4609,Q4610,Q4614,Q4616-Q4618		2SC2712
	Q4625,Q4628,Q4629,Q4635-Q4638		2SC2712
	Q4640,Q4642-Q4644,Q4646,Q4653		2SC2712
	Q4658-Q4663,Q4665,Q4671		2SC2712
	Q4611,Q4623,Q4631		2SK209
	Q4650		HN1A01FU
	Q4603,Q4605,Q4612,Q4624,Q4641		HN1B04FU
	Q4666-Q4670		HN1B04FU
	Q4620,Q4630,Q4647,Q4649,Q4651		HN1C01FU
	Q4664		HN1C01FU
	D4601,D4602		1SS184
	D4614		1SS226
	D4603,D4604,D4606,D4609,D4610		1SS355
	D4612,D4615		1SS355
	D4617-D4619,D4623-D4625		1SS355

COILS AND FILTERS

Mark	No.	Description	Part No.
	L4603		LCTA4R7J2520
	L4601		LCTA470J2520
	L4602		QTL1013

CAPACITORS

Mark	No.	Description	Part No.
	C4724		CCSRCH150J50
	C4734		CCSRCH221J50
	C4685		CCSRCH330J50
	C4696,C4697,C4703		CCSRCH7R0D50
	C4666,C4699		CEAT100M50
	C4618,C4640,C4650,C4658,C4668		CEAT101M10
	C4693,C4705,C4708,C4712,C4730		CEAT101M10
	C4735		CEAT101M10
	C4601,C4603,C4606,C4607,C4609		CEAT470M16
	C4611,C4612,C4633,C4652,C4654		CEAT470M16
	C4664,C4716,C4721		CEAT470M16
	C4614,C4616		CEAT471M16
	C4621,C4649		CEAT4R7M50
	C4602,C4605,C4610,C4613,C4615		CKSRYB103K50
	C4617,C4619,C4629,C4631,C4632		CKSRYB103K50
	C4637,C4641,C4642,C4647,C4648		CKSRYB103K50
	C4651,C4653,C4655,C4656		CKSRYB103K50
	C4659-C4661,C4665,C4667		CKSRYB103K50
	C4670-C4676,C4678-C4681,C4683		CKSRYB103K50
	C4686-C4692,C4694,C4695,C4702		CKSRYB103K50
	C4704,C4706,C4707,C4709-C4711		CKSRYB103K50
	C4713-C4715,C4722,C4723		CKSRYB103K50
	C4725-C4727,C4736,C4737		CKSRYB103K50
	C4623-C4628,C4630,C4634-C4636		CKSRYB104K16
	C4638,C4639,C4644-C4646,C4701		CKSRYB104K16
	C4738,C4739		CKSRYB104K16
	C4643,C4662,C4684,C4733		CKSRYB105K10
	C4682,C4719,C4720		CKSRYB105K6R3
	C4669		CKSRYB472K50
	C4620,C4622,C4677		CKSRYB474K10
	C4657		CQHA104J50

RESISTORS

Mark	No.	Description	Part No.
	R4667,R4709,R4724		RD1/4MUF390J
	R4721,R4737,R4900		RS1/16S1000F
	R4725		RS1/16S1001F
	R4651,R4699,R4713,R4730,R4809		RS1/16S1002F
	R4661,R4700,R4755,R4778,R4785		RS1/16S1201F
	R4794		RS1/16S1201F
	R4800		RS1/16S1202F
	R4801		RS1/16S1501F
	R4626,R4796		RS1/16S1801F
	R4776		RS1/16S2001F
	R4774,R4784,R4888		RS1/16S2201F
	R4727,R4793		RS1/16S2202F
	R4863,R4875,R4885		RS1/16S2700F
	R4708,R4723,R4752,R4815		RS1/16S3301F
	R4612		RS1/16S3302F
	R4662,R4701,R4756		RS1/16S3601F
	R4619		RS1/16S3900F
	R4637		RS1/16S3901F
	R4795		RS1/16S4301F
	R4799		RS1/16S4302F
	R4620,R4643,R4876		RS1/16S4701F
	R4722,R4759,R4835		RS1/16S47R0F
	R4777		RS1/16S5101F
	R4614,R4665,R4862,R4874,R4884		RS1/16S5600F
	R4805		RS1/16S5601F
	R4629,R4783		RS1/16S6201F
	R4773		RS1/16S6800F
	R4775		RS1/16S6801F
	R4789		RS1/16S7501F
	R4806,R4807		RS1/16S8201F
	Other Resistors		RS1/16S###J

OTHERS

Mark	No.	Description	Part No.
	X4601	CERALOCK	ASS1166
	CN4602	SOCKET19-P	19RK-1.25FJN
	CN4601	PLUG 15-P	KM250MA15

• AUDIO PRE BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC5502		BH3865S
	IC5501,IC5503,IC5504		NJM4558MD
	Q5501-Q5506		2SC2712

CAPACITORS

Mark	No.	Description	Part No.
	C5507,C5514		CCSRCH331J50
	C5508,C5518,C5519		CEAT100M50
	C5502,C5534		CEAT101M10
	C5523		CEAT101M16
	C5501,C5504-C5506		CEAT220M50
	C5509		CEAT471M16
	C5512,C5520,C5524,C5527,C5528		CEAT4R7M50
	C5533,C5537		CFTLA274J50
	C5532,C5539		CFTLA393J50
	C5529,C5538		CFTLA473J50
	C5530,C5536		CFTLA684J50
	C5503,C5510,C5531,C5535		CKSRYB103K50
	C5522		CKSRYB104K16
	C5517,C5525		CKSRYB471K50
	C5521		CKSRYB562K50
	C5513,C5526		CKSRYB683K16

RESISTORS

Mark	No.	Description	Part No.
	R5549,R5550,R5552,R5553		RS1/10S271J
	R5533,R5537,R5558,R5562		RS1/10S561J
	R5525		RS1/16S1602F
	R5524		RS1/16S2002F
	Other Resistors		RS1/16S###J

OTHERS

Mark	No.	Description	Part No.
	CN5501	SOCKET19-P	19RK-1.25FJN

K R CRT DRIVE ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC5101		TDA6120QN2
	Q5101		2SC1740S
	D5103,D5105		1SS244
	D5109		MTZJ12A
	D5108		MTZJ3.9B
	D5107		MTZJ5.6A
	D5101,D5102,D5104,D5106,D5110		S5688G

COILS AND FILTERS

Mark	No.	Description	Part No.
	SG5101,SG5102		AEX1024
	L5103		LTA562J

CAPACITORS

Mark	No.	Description	Part No.
	C5108	(3300p)	ACG1008
	C5102		CCCCH150J50
	C5101		CCCCH220J50
	C5110		CEAT101M25
	C5109		CEAT472M16
	C5107,C5114		CEHAT470M2E
	C5111,C5113		CKCYE103P2H
	C5104,C5106		CKCYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R5115,R5118	(47, 1/2W)	ACN1129
	R5116	(330, 1/2W)	ACN1158
	R5117		RD1/2LMF100J
	R5106		RN1/4PC5100F
	R5101		RS1MMF6R8J
	R5112-R5114		RS3LMF822J
	VR5101		VRTHS6VS222
	Other Resistors		RD1/4PU###J

OTHERS

Mark	No.	Description	Part No.
	J5101	CRT GND WIRE	ADX2762
	CN5104	CRT SOCKET	AKG1006
	SCREW		BBZ30P080FCU
	SCREW		BPZ30P100FZK
	CN5105	PLUG 3-P	KM250MA3
	CN5106	PLUG 3-P	KM250MA3R
	CN5101	PLUG 5-P	KM250MA5R
	CN5102	PLUG 6-P	KM250MA6
	SCREW		PMB30P160FZK

L G CRT DRIVE ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC5151		TDA6120QN2
	Q5151		2SC1740S
	D5153,D5155		1SS244
	D5159		MTZJ12A
	D5158		MTZJ3.9B
	D5157		MTZJ5.6A
	D5151,D5152,D5154,D5156,D5160		S5688G

COILS AND FILTERS

Mark	No.	Description	Part No.
	SG5151,SG5152		AEX1024
	L5153		LTA562J

CAPACITORS

Mark	No.	Description	Part No.
	C5158	(3300p)	ACG1008
	C5153		CCCCH120J50
	C5151,C5152		CCCCH150J50
	C5160		CEAT101M25
	C5159		CEAT472M16
	C5157,C5164		CEHAT470M2E
	C5161,C5163		CKCYE103P2H
	C5154-C5156,C5165		CKCYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R5164,R5168	(47, 1/2W)	ACN1129
	R5165	(330, 1/2W)	ACN1158
	R5167		RD1/2LMF100J
	R5155		RN1/4PC3900F
	R5151		RS1MMF6R8J
	R5161-R5163		RS3LMF822J
	VR5151		VRTHS6VS222
	Other Resistors		RD1/4PU###J

OTHERS

Mark	No.	Description	Part No.
	J5151	CRT GND WIRE	ADX2762
	J5152	4P HOUSING WIRE	ADX2794
	CN5145	CRT SOCKET	AKG1006
	SCREW		BBZ30P080FCU
	SCREW		BPZ30P100FZK
	CN5156	PLUG 3-P	KM250MA3
	CN5157	PLUG 3-P	KM250MA3B
	CN5151	PLUG 5-P	KM250MA5
	SCREW		PMB30P160FZK

M B CRT DRIVE ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC5201		TDA6120QN2
	Q5201		2SC1740S
	D5203,D5205		1SS244
	D5209		MTZJ12A
	D5208		MTZJ3.9B
	D5207		MTZJ5.6A
	D5201,D5202,D5204,D5206,D5210		S5688G

COILS AND FILTERS

Mark	No.	Description	Part No.
	SG5201,SG5202		AEX1024
	L5203		LTA562J

CAPACITORS

Mark	No.	Description	Part No.
	C5208	(3300p)	ACG1008
	C5202		CCCCH120J50
	C5201		CCCCH150J50
	C5210		CEAT101M25
	C5209		CEAT472M16
	C5207,C5214		CEHAT470M2E

Mark	No.	Description	Part No.
	C5211,C5213		CKCYE103P2H
	C5204,C5206		CKCYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R5214,R5218	(47, 1/2W)	ACN1129
	R5215	(330, 1/2W)	ACN1158
	R5217		RD1/2LMF100J
	R5205		RN1/4PC4300F
	R5201		RS1MMF6R8J
	R5211-R5213		RS3LMF822J
	VR5201		VRTHS6VS222
	Other Resistors		RD1/4PU###J

OTHERS

Mark	No.	Description	Part No.
	J5201	CRT GND WIRE	ADX2762
	J5203	4P HOUSING WIRE	ADX2794
	CN5204	CRT SOCKET	AKG1006
	SCREW		BBZ30P080FCU
	SCREW		BPZ30P100FZK
	CN5206	PLUG 3-P	KM250MA3
	CN5207	PLUG 3-P	KM250MA3B
	CN5201	PLUG 5-P	KM250MA5B
	SCREW		PMB30P160FZK

N DEFLECTION SERVICE ASSY

• DEFLECTION BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC502		NJM4558DXP
	IC501		NJM7812FA
	IC802		LA78045
	IC801		M5220P
	IC803		NJM78L05A
	IC804		NJM7905FA
⚠	601	PCS MODULE	MSPAD401
	Q503,Q505,Q507,Q513,Q515		2SA933S
	Q504,Q506,Q509		2SC1740S
	Q510		2SC2705
	Q512		2SC3332
⚠	Q511		2SC5716
	Q508		2SD1894LB
	Q602,Q604		2SA933S
X	Q609,Q610		2SA933S
	Q601,Q607,Q608,Q613-Q616		2SC1740S
⚠	Q603		2SK2649-01R
	Q703,Q705		2SA933S
⚠	Q701,Q702		2SC4686A
	Q704		2SC1740S
	Q501,Q502		2SA1145
	Q802-Q804		2SC1740S
	D509,D514		11DF2
	D503,D505-D508		1SS133
	D511-D513,D516-D521		1SS133
	D510		ERB93-02L3
	D515		MTZJ5.1A
	D504		S5688G
⚠	D601,D606		11DF2
	D608-D611,D613,D615,D616		1SS133
	D618,D620-D623		1SS133
⚠	D604		DD52RC
	D607		ERA22-02

Mark	No.	Description	Part No.
	D602,D603		MA723
	D614,D617,D619		MTZJ12
	D612		MTZJ5.6A
	D605		RG4C(C)
	D703-D709		1SS133
⚠	D701,D702		ERD07-15
	D806,D807,D809-D811		1SS133
	D808		MTZJ12
	D801-D805		S5688G

COILS AND TRANSFORMERS

Mark	No.	Description	Part No.
	L501-L503		ATH1107
	L602		ATH1107
	L601		ATH1108
	L701,L702		ATX1021
	L803-L805,L807		ATH1107
	L806,L808,L809		ATH1108
⚠	T502		ATK1144
⚠	T501		ATK1145
⚠	T601		ATK1148

CAPACITORS

Mark	No.	Description	Part No.
⚠	C522	(100p/2kV)	ACG-032
	C517	(1/100V)	ACH-372
	C511,C530		CCCSL101J50
	C520		CCCSL101K2H
	C513		CCCSL470J50
	C515,C526		CEAT101M16
	C529		CEAT102M35
	C504		CEAT1R0M50
	C518		CEAT221M16
	C502		CEAT330M35
	C509		CEAT4R7M50
	C516		CEHAQ1R0M2C
	C510		CEHAT100M2C
	C507		CEHAT101M16
	C506		CEHAT101M35
⚠	C523		CFPAB332H3C
⚠	C524		CFPAB472H3C
⚠	C531		CFPMAB564J2G
	C521		CFTLA105J50
	C519		CFTLA683J50
	C512		CKCYB561K50
	C501,C503,C505,C508,C514		CKCYF103Z50
	C525,C527,C528		CKCYF103Z50
	C601		ACG1093
	C602,C614	(560/160V)	ACH1146
	C610		CCCSL470J50
	C604		CEAT101M16
	C607,C611,C622		CEAT1R0M50
	C612,C627		CEAT221M16
	C616		CEAT470M16
	C624		CEHAT100M50
	C623		CEHAT220M63
⚠	C606		CFPAB222H3C
	C603		CKCYE103P2H
	C605,C608,C609,C613,C615		CKCYF103Z50
	C621,C625,C626,C628		CKCYF103Z50
	C701,C702	(4700p/2kV)	ACG1028

Mark	No.	Description	Part No.
	C704		CEANP100M35
	C705		CEAT470M25
	C703		CKCYF103Z50
	C802,C805		CCCSL101J50
	C806,C829		CEANP101M10
	C822		CEANP101M25
	C803,C826		CEAT101M10
	C821,C823,C827		CEAT101M25
	C834		CEAT470M16
	C815		CEHAT221M50
	C809,C812		CEHAT222M35
	C831,C832		CEHAT472M35
	C818		CFTLA683J100
	C811,C814		CKCYB331K50
	C804,C807,C808,C810,C813		CKCYF103Z50
	C816,C817,C819,C820		CKCYF103Z50
	C824,C825,C828,C830,C833		CKCYF103Z50

RESISTORS

Mark	No.	Description	Part No.
	R516		RD1/2PM153J
	R530		RD1/2PM223J
	R540		RN1/4PC1503F
	R545		RN1/4PC6801F
	R550		RS1MMF100J
	R562		RS2MMF150J
	R564		RS2MMF180J
	R502,R506,R531,R543,R544		RS2MMF1R0J
	R529		RS2MMF220J
	R542		RS2MMF222J
	R614	(27, 1/2W)	ACN1136
	R656		RD1/2PM122J
⚠	R603,R607		RN1/2PC3902F
⚠ X	R628		RN1/4PC1502F
⚠ X	R612,R624		RN1/4PC1802F
⚠ X	R633		RN1/4PC3302F
⚠ X	R627		RN1/4PC3601F
⚠ X	R622		RN1/4PC6802F
	R601,R602,R615		RS2MMF151J
	R608,R609		RS2MMFR33J
⚠ X	VR601		VRTHS6VS103
⚠ X	VR602		VRTHS6VS223
	R701		ACN1011
	R735		RD1/4LMF100J
	R717-R719,R726-R728		RN1/2PC1103F
	R714-R716,R723-R725		RN1/2PC1803F
	R702-R713		RN1/2PC2203F
	R732		RN1/4PC1602F
	R733		RN1/4PC2000F
	R721		RN1/4PC2202F
	R729		RN1/4PC3302F
	R731		RN1/4PC4701F
	R730		RN1/4PC56R0F
	R734		RT5PZ561K
	R828		RN1/4PC2201F
	R805		RN1/4PC2702F
	R804,R842		RN1/4PC5601F
	R803,R841		RN1/4PC6801F
	R817		RS1MMF3R9J
	R820-R822		RS1MMF470J
	R834		RS2MMF100J
	R816		RS2MMF1R2J
	R843		RS2MMF561J
	R830		RS2MMF680J
	R833		RS2MMF8R2J
	R831		RS3LMF100J
	R832		RS3LMF8R2J
	Other Resistors		RD1/4PU###J

OTHERS

Mark	No.	Description	Part No.
	CN501,CN502	SOCKET19-P	19RK-1.25FJN
⚠	CN503-CN505	PLUG 4-P	AKM1066
	CN601	5P CONNECTOR	B5P-VH
	CN701	PLUG 3-P	AKM1055
	J601	1P READ WIRE	ADX2492
	602	HV DISTRIBUTOR	AXW1050
	J502	1P LEAD WIRE	ADX2654
	J604	5P HV RETURN WIRE	ADX2658
	J603	HV CABLE (600)	ADY1064
	J506	4P HOUSING WIRE	ADX2796
	SG701	SPARK GAP	AEX1024

• POWER SUPPLY BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC1001		PQ30RV21
⚠	IC901		AN8029
	IC902		ON3171
	Q1001,Q1002,Q1008		2SA933S
	Q1003-Q1007,Q1012		2SC1740S
	Q1011		2SC2705
	Q1010		2SC3468
	Q1009		2SD1276A
⚠	Q901		2SK1938-R
	D906		11DF2
	D901		D5SBA60(B)
	D902,D905		MA723
	D909		MTZJ24
	D1001-D1006,D1008,D1011,D1012		1SS133
	D1014,D1018,D1020,D1022-D1024		1SS133
	D1026		1SS133
	D1016		D3L60
	D1015		ERB37-10
	D1010		ERC91-02L
	D1007,D1009		YG802C09
	D1021		MTZJ12
	D1013		MTZJ6.2A
	D1019		MTZJ6.2B
	D1017,D1025		MTZJ7.5A
	D1027,D1028		S5688G

COILS AND TRANSFORMERS

Mark	No.	Description	Part No.
⚠	T901		ATK1154
	L901,L902		ATX1021
	L1012		ATH1108
	L1001		ATH1109
	L1004,L1007-L1011,L1014,L1015		ATX1021

RELAYS

Mark	No.	Description	Part No.
	RY901,RY902		ASR1052

Mark	No. Description	Part No.

CAPACITORS

	C901,C902 (0.01/AC250V)	ACG-501
	C910 (3300p/2kV)	ACG1008
	C906 (4700p/2kV)	ACG1028
	C903,C905 (4700p/AC250V)	ACG1064
	C904 (1500/200V)	ACH1291
	C911	CCCCH151J50
	C914	CEAT101M25
	C915	CEAT1R0M50
	C909	CEAT220M50
	C908	CKCYF103Z50
	C912	CQMA182J50
	C907	CQMA473J50
	C913	CQMA822J50
	C1021,C1022 (100p/2kV)	ACG-032
	C1005,C1008 (4700p/AC250V)	ACG1064
	C1009,C1014,C1015	CCCSL221K2H
	C1023 (560/160V)	ACH1146
	C1004	CEANP100M35
	C1001,C1003,C1019,C1020	CEAT100M50
	C1030,C1031	CEAT101M10
	C1028	CEAT1R0M50
	C1002	CEAT470M25
	C1027	CEHAT101M2E
	C1016	CEHAT332M10
	C1025	CEHAT470M2E
	C1010-C1013	CEHAT472M35
	C1024	CKCYE103P2H
	C1017,C1018,C1026	CKCYF103Z50
	C1029	CQMA104J50

RESISTORS

	R902 (2.7)	ACN1161
	R910	RD1/2MMF2R2J
	R905	RD1/4MUF100J
	R909	RD1/4MUF681J
	R907	RS1MMF151J
	R904,R906	RS1MMF333J
	R903	RS2MMF104J
	R914,R915	RS2MMFR22J
	R901	RT5PZ1R8K
	R1026	RD1/2PM154J
	R1023,R1027	RN1/4PC1003F
	R1016	RN1/4PC1602F
	R1024	RN1/4PC3901F
	R1028	RN1/4PC8201F
	R1021	RS1MMF100J
	R1029	RS2MMF223J
	VR1001 (1k)	VCP1151
	VR1002 (22k)	VCP1158
	Other Resistors	RD1/4PU###J

OTHERS

	CN1001 PLUG 6-P	KM250MA6
	J901 3P HOUSING WIRE	ADX2799
	H1001-H1006 FUSE CLIP	AKR1003
	FU1001-FU1003 FUSE (6.3A)	REK1085

Mark	No. Description	Part No.

O DIGITAL CONV. ASSY

SEMICONDUCTORS

	IC1203	24LC64(I)P
	IC1205	CD0031AM
	IC1204	CM0022AF
	IC1201	M51952BML
	IC1209	NJM4558MD
	IC1202,IC1206-IC1208,IC1210,IC1211	UPC4570G2
	Q1204-Q1206	2SA1162
	Q1202,Q1203	2SC2712
	Q1201	2SJ461
	D1202-D1205	1SS226

COILS AND FILTERS

	F1201-F1203	ATF1194
	L1205,L1207-L1209,L1212,L1213	LFEA471J
	L1201-L1203,L1206,L1210,L1211	QTL1013

CAPACITORS

	C1213,C1219,C1226,C1236,C1241	CCSRCH100D50
	C1249,C1255,C1259,C1269	CCSRCH100D50
	C1274,C1275,C1280	CCSRCH100D50
	C1214,C1227,C1243,C1256,C1270	CCSRCH471J50
	C1276	CCSRCH471J50
	C1204	CEANP221M10
	C1265	CEANP4R7M50
	C1203,C1205,C1211,C1217,C1221	CEAT101M16
	C1250,C1251	CEAT101M16
	C1262	CEAT2R2M50
	C1207-C1209,C1222,C1225,C1231	CEAT470M10
	C1234,C1237,C1240	CEAT470M10
	C1288	CKSRYB102K50
	C1289	CKSRYB221K50
	C1202	CKSRYB222K50
	C1229	CKSRYB472K50
	C1260	CKSRYB821K50
	C1201,C1206,C1210,C1212,C1216	CKSRYF103Z50
	C1218,C1220,C1223,C1224,C1230	CKSRYF103Z50
	C1232,C1233,C1235,C1238,C1239	CKSRYF103Z50
	C1242,C1245-C1248,C1253,C1254	CKSRYF103Z50
	C1258,C1261,C1264,C1267,C1268	CKSRYF103Z50
	C1272,C1273,C1278,C1279	CKSRYF103Z50
	C1281-C1284,C1287	CKSRYF103Z50
	C1215,C1228,C1244,C1257,C1271	CQMA472J50
	C1277	CQMA472J50
	C1252	CQMA823J50

RESISTORS

	R1209,R1222,R1236,R1247,R1259	RS1/16S1002F
	R1272,R1282,R1283,R1297,R1303	RS1/16S1002F
	R1310,R1314	RS1/16S1002F
	R1211,R1223,R1237,R1248,R1273	RS1/16S4302F
	R1279	RS1/16S4302F
	R1284,R1290,R1298,R1304,R1311	RS1/16S5602F
	R1315	RS1/16S5602F
	Other Resistors	RS1/16S###J

OTHERS

	CN1201, CN1202 PLUG 15-P	AKM1206

P POWER SUPPLY ASSY

• STAND-BY BLOCK

SEMICONDUCTORS

Mark	No. Description	Part No.
⚠	IC101	MIP0253SP
	IC102, IC103	ON3171
	Q101, Q108	2SA933S
	Q102- Q107, Q109	2SC1740S
	D104- D106, D108- D110	1SS133
	D112- D116	1SS133
	D107, D111	BR3371XJ30A
	D103	D1NS4
	D101	ERB06-15
	D102	S1WB(A)60B

COILS AND FILTERS

Mark	No. Description	Part No.
⚠	T101	ATK1133
	L101	ATX1008

CAPACITORS

Mark	No. Description	Part No.
	C101 (0.1/275V)	ACE1156
	C102 (0.01/275V)	ACE1157
	C106, C110	CEAT100M50
	C108, C109, C111	CEAT470M25
	C105	CEHAT331M10
	C103	CEHAT470M2D
	C104	CFTLA104J50
	C112	CKCYF103Z50

RESISTORS

Mark	No. Description	Part No.
	R102 (2.7)	ACN1161
	R101	RD1/4MUF103J
	R107	RN1/4PC3301F
	R104	RN1/4PC3901F
	R126	RT5PZ1R8K
	VR101 (1k)	VCP1151
	Other Resistors	RD1/4PU###J

OTHERS

Mark	No. Description	Part No.
	CN101 PLUG 2-P	AKM1127

• PRIMARY BLOCK

SEMICONDUCTORS

Mark	No. Description	Part No.
⚠	IC201	AN8029
	IC202	ON3171
⚠	Q201	2SK1938-R
	D206	11DF2
	D201	D3SBA60
	D202, D205	MA723
	D209	MTZJ24
⚠	VA201	TNR5V471K300

COILS AND FILTERS

Mark	No. Description	Part No.
⚠	L201, L202	ATF1183
⚠	L205	ATF1207
	L203, L206, L207	ATX1021
	L208	ATX1023

TRANSFORMERS

Mark	No. Description	Part No.
⚠	T201	ATK1155

SWITCHES AND RELAYS

Mark	No. Description	Part No.
	RY201, RY202	ASR1052

CAPACITORS

Mark	No. Description	Part No.
⚠	C205, C207, C219 (0.22/275V)	ACE1155
	C217, C218 (0.01F/AC250V)	ACG-501
	C206, C208 (3300pF)	ACG1008
	C204 (4700pF/AC250V)	ACG1064
	C201 (820/200V)	ACH1148
	C212	CCCCH121J50
	C215	CEHAT101M25
	C216	CEHAT1R0M50
	C211	CEHAT220M50
	C210	CKCYF103Z50
	C213	CQMA182J50
	C209	CQMA473J50
	C214	CQMA822J50

RESISTORS

Mark	No. Description	Part No.
	R201, R204 (2.2M, 1/2W)	RCN1080
	R211	RD1/2MMF100J
	R205	RD1/4MUF100J
	R210	RD1/4MUF681J
	R207	RS1MMF151J
	R203, R206	RS1MMF333J
	R202	RS2MMF104J
	R214, R215	RS2MMFR47J
	Other Resistors	RD1/4PU###J

OTHERS

Mark	No. Description	Part No.
⚠	FU201 FUSE (10A)	AEK1069
	CN201, CN202 PLUG 2-P	AKM1156
	H201, H202 FUSE HOLDER	AKR1007
⚠	P201 SURGE ABSORBER	DSS-302M-S00B
	SCREW	PMB30P100FMC
	SCREW	PMZ30P100FZK

• SECONDARY BLOCK

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC301	NJM7805FA
	Q302, Q303	2SA933S
	Q301, Q304	2SC1740S
	D309, D310	11DF2
	D302, D304, D308, D311, D312	1SS133
	D314, D317- D320	1SS133
	D313	D3L60
	D307	ERC91-02L
	D306	MTZJ2.7A
	D315	MTZJ5.1A
	D301, D303	YG802C06R
	D305	YG911S2R

COILS AND FILTERS

Mark	No. Description	Part No.
	L305, L314, L316	ATH1107
	L301- L303, L307, L308, L311	ATH1108
	L319, L322	ATH1108
	L320	ATH1109
	L306	ATX1008
	L304, L309, L310, L312, L318	ATX1021

CAPACITORS

Mark	No. Description	Part No.
	C302 (4700pF/AC250V)	ACG1064
	C317, C318	CCCSL101K2H
	C303, C307, C310, C314, C321	CCCSL221K2H
	C313, C325, C327, C328	CEAT100M50
	C330	CEAT101M10
	C323	CEAT1R0M50
	C319	CEHAT100M2A
	C306, C312	CEHAT222M10
	C320, C331	CEHAT222M16
	C322	CEHAT332M50
	C315	CEHAT471M16
	C304, C305, C308, C309	CEHAT682M10
	C311	CEHAT682M16
	C316	CFTLA105J50
	C326, C329, C332	CKCYF103Z50
	C324	CQMA104J50

RESISTORS

Mark	No. Description	Part No.
	R306, R320	RS2MMF272J
	VR301 (1k)	VCP1151
	Other Resistors	RD1/4PU###J

OTHERS

Mark	No. Description	Part No.
⚠	J305 1P LEAD WIRE	ADX2795
	H301- H308 FUSE CLIP	AKR1003
	CN301 PLUG 8-P	KM250MA8
	CN302, CN303 PLUG 19-P	19P-250K-1.25FJNA
	SCREW	PMZ30P100FZK
⚠	FU301- FU304 FUSE (4A)	REK1082

• CONVERGENCE BLOCK

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC401, IC402	STK392-180
	Q401, Q403	2SA933S
	Q405	2SC1740S
	Q402, Q404	2SC2878
	D402	1SS133
	D403- D414	S5688G

COILS AND FILTERS

Mark	No. Description	Part No.
	L401, L402	ATH1107
	L403, L404	ATH1108
	L410	ATH1109

CAPACITORS

Mark	No. Description	Part No.
	C416, C418, C420, C424, C426	CCCSL220J50
	C428	CCCSL220J50
	C433, C435	CEAT331M6R3
	C403, C409	CEHAT472M35
	C413, C414, C421, C422	CKCYB331K50
	C429, C430	CKCYB331K50
	C432	CKCYB332K50
	C415, C417, C419, C423, C425	CKCYB681K50
	C427	CKCYB681K50
	C401, C402, C404- C408	CKCYF103Z50
	C410- C412, C434, C436	CKCYF103Z50

RESISTORS

Mark	No. Description	Part No.
	R431, R432, R438, R440, R446	RS2MMF121J
	R448	RS2MMF121J
	R415, R423, R433, R435, R441	RS2MMF1R5J
	R443	RS2MMF1R5J
	R413, R414, R437, R439, R445	RS2MMF221J
	R447	RS2MMF221J
	R449, R450	RS3LMFR47J
	Other Resistors	RD1/4PU###J

OTHERS

Mark	No. Description	Part No.
	CN405, CN406 SOCKET 15-P	AKP1222
	CN402 4P TOP POST	B4B-EH
	CN403 4P TOP POST	B4B-EH-K
	CN401 4P TOP POST	B4B-EH-R
	SCREW	BBZ30P080FCU
	CN404, CN407-CN409 PLUG 19-P	19P-250K-1.25FJNA
	CN410 PLUG 4-P	KM250MA4
	SCREW	PMB30P160FZK

• SW BLOCK

SEMICONDUCTORS

Mark	No. Description	Part No.
	Q758	2SA1535
	Q751, Q757, Q760, Q762	2SA720A
	Q752, Q755, Q756, Q761, Q763	2SC1318A
	Q759	2SC3944
	D751, D752, D754, D755	S5688G

COILS AND FILTERS

Mark	No. Description	Part No.
	L751- L754, L757	ATH1109
	L755, L756	ATX1021

CAPACITORS

Mark	No. Description	Part No.
	C756, C771	CEAT101M25
	C761	CEAT1R0M50
	C751	CEAT470M50
	C760, C764	CEHAT220M2C
	C767	CEHAT3R3M2C
	C759, C765, C766	CKCYE103P2H
	C769	CKCYF103Z50
	C752, C757, C772	CKCYF473Z50
	C768	CQMA472J50
	C758	CQMA472K2E

RESISTORS

Mark	No. Description	Part No.
	R766	RD1/2MMF100J
	R767	RD1/2MMF152J
	R769, R776	RD1/2PM2R2J
	R757, R758	RD1/4MUF100J
	R753	RD1/4MUF101J
	R768, R781	RD1/4MUF560J
	R752, R764	RS1MMF472J
	R770, R775	RS2MMF271J
	R774	RS3LMF391J
	Other Resistors	RD1/4PU###J

OTHERS

Mark	No. Description	Part No.
	CN751 PLUG 9-P	KM250MA9
	SCREW	752PMZ30P100FZK

Mark No.	Description	Part No.
	• AUDIO POWER BLOCK	

SEMICONDUCTORS

IC1101	LA4282
Q1108	2SA933S
Q1101, Q1109	2SC1740S
Q1104, Q1107	2SC2878
D1101-D1107	1SS133

CAPACITORS

C1111	CEAT102M50
C1108, C1115	CEAT1R0M50
C1104, C1106	CEAT2R2M50
C1103, C1107	CEAT330M50
C1119	CEAT470M50
C1114, C1117	CEHAT102M35
C1105	CEHAT221M25
C1113, C1118	CFTLA104J50
C1110, C1116	CKCYB102K50
C1109, C1112	CKCYF103Z50

RESISTORS

R1118, R1127	RD1/2PM152J
R1104	RD1/2PM561J
R1117, R1126	RD1/4MUF2R2J
Other Resistors	RD1/4PU###J

OTHERS

ISOLATION SHEET	AEB1359
PLATE SPRING	ANG1569
SCREW	BBZ30P080FCU
CN1101 PLUG 4-P	KM250MA4R

Q POWER SW ASSY

SWITCHES

S5291	ASG1084

OYHERS

CN5291 PLUG 2-P	AKM1127

Pioneer sound.vision.soul

Service Manual

PRO-730HD

ORDER NO.
ARP3139E

HDTV PROJECTION MONITOR

PRO-730HD
PRO-630HD
PRO-530HD

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PRO-730HD	KUXC/CA	AC120V	
PRO-630HD	KUXC/CA	AC120V	
PRO-530HD	KUXC/CA	AC120V	

For details, refer to "Important symbols for good services" on the next page.

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

©PIONEER CORPORATION 2002

T-ZZY OCT. 2002 printed in Japan

[Important symbols for good services]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

CONTENTS

6. ADJUSTMENT 150
   - 6.1 INTRODUCTION 150
   - 6.2 JIGS AND MEASURING INSTRUMENTS 150
   - 6.3 ADJUSTMENT LOCATION AND ITEMS 151
   - 6.4 FOR DIGITAL INPUT 153
   - 6.5 FACTORY ADJ MODE 154
   - 6.6 ADJUSTMENT 156

7. GENERAL INFORMATION 174
   - 7.1 DIAGNOSIS 174
     - 7.1.1 DIAGNOSIS METHOD 174
     - 7.1.2 DISASSEMBLY 178
     - 7.1.3 WIRING DIAGRAM 182
     - 7.1.4 ABOUT THE SERVICE (RS-232C) PORT 184
   - 7.2 IC 185
   - 7.3 EXPLANATION 237

8. PANEL FACILITIES 250

6. ADJUSTMENT

6.1 INTRODUCTION

• IMPORTANT

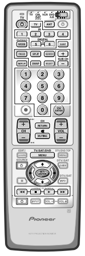
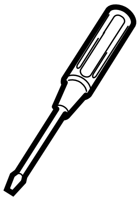
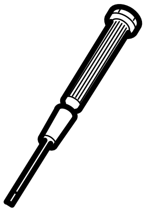
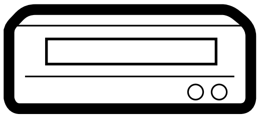
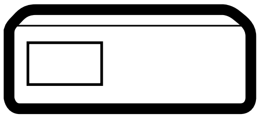
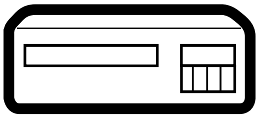
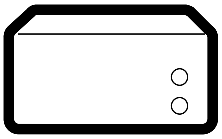
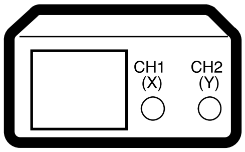
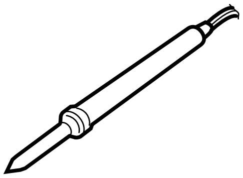
When replacement of the following assemblies are required during repairs, be sure to replace the EEPROMs with the mounted ones in order to retain the adjustment data of the unit and to facilitate adjustment after the replacement of the assemblies.

PC Board	EEPROM	Main Contents of Memory
VIDEO UCOM SERVICE Assy	IC1903 [24LC32(I)P]	Adjustment data, such as W/B and color data, Convergence offset data in FACTORY mode, User data set on the MENU
DIGITAL CONV. Assy	IC1203 [24LC64(I)P]	Convergence adjustment data

Notes:

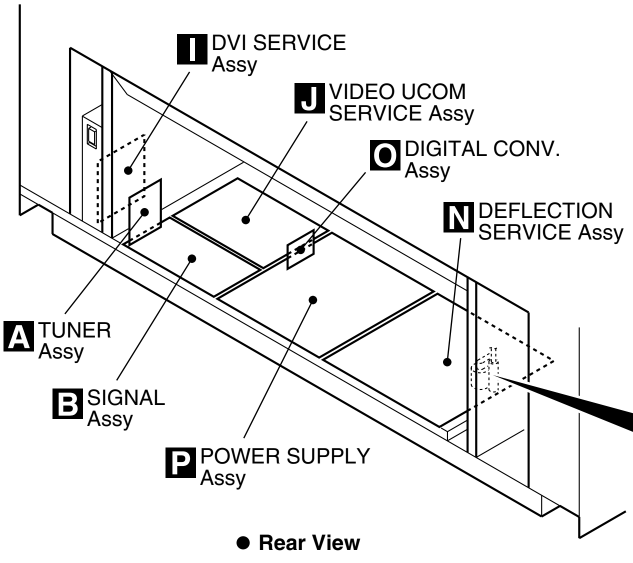
- Even if the EEPROMs are replaced, adjustment may be necessary, depending on the part or assembly to be replaced. For details, see page 152.
- Even if the EEPROMs are replaced, if the EEPROMs are damaged or if their data have been changed from the adjustment data, the status before the failure will not be restored. Check the status of the unit after replacement of the EEPROMs, and readjust if necessary.

6.2 JIGS AND MEASURING INSTRUMENTS

 Remote control unit AXD1468	 ⊖ Screwdriver	 ⊖ Adjustment screwdriver	 Color bar generator
 D. DC Voltmeter	 DVD / LD Player	 Monoscope	 Dual-trace oscilloscope
For HD Signal generator	 Soldering iron		

6.3 ADJUSTMENT LOCATION AND ITEMS

Assembly Adjustment Location

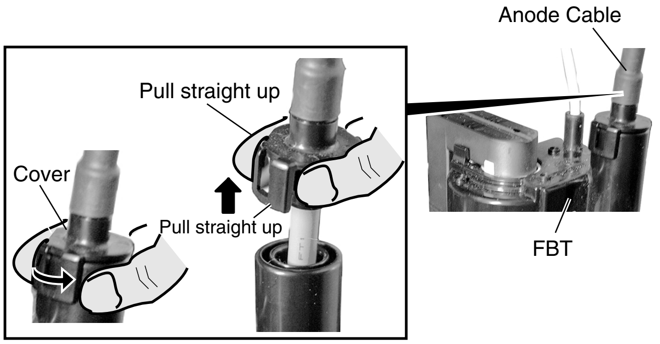

I DVI SERVICE Assy
J VIDEO UCOM SERVICE Assy
O DIGITAL CONV. Assy
N DEFLECTION SERVICE Assy
A TUNER Assy
B SIGNAL Assy
P POWER SUPPLY Assy
● Rear View

MEASURING METHOD

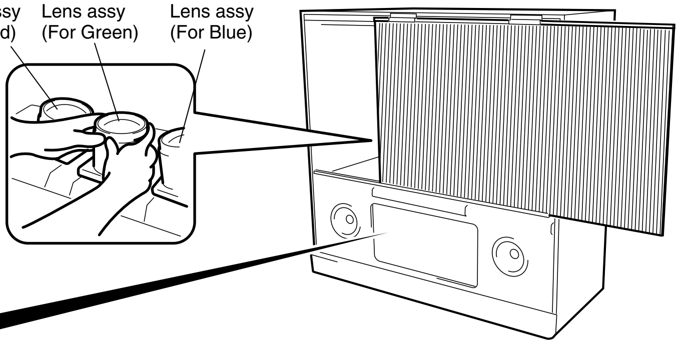
Disconnect the FBT anode cable as shown below.
Measure at the point where the cable enters the FBT.

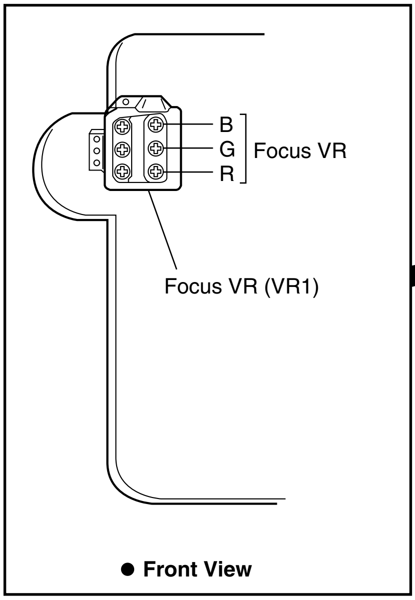
Caution :
Take extra precaution when measuring the voltage. High voltage are also present in surrounding circuit boards. (CRT assy, POWER SUPPLY assy)

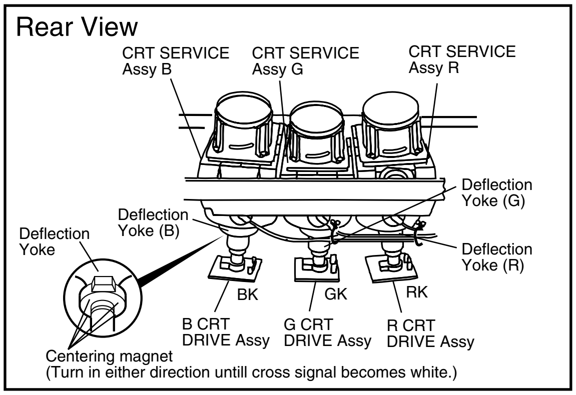
SERVICEMAN WARNING
Before removing the anode cable, turn off the power, unplug the AC plug and let the unit discharge for more than 1 minut.


Anode Cable
Pull straight up
Cover
Pull straight up
FBT

Note :
When reconnecting the cable, proceed in the reverse order. After reconnecting, tug on the cable to check that it is secure.


Lens assy (For Red)
Lens assy (For Green)
Lens assy (For Blue)


B
G
R
Focus VR
Focus VR (VR1)
● Front View


Rear View
CRT SERVICE Assy B
CRT SERVICE Assy G
CRT SERVICE Assy R
Deflection Yoke (G)
Deflection Yoke (B)
Deflection Yoke
Deflection Yoke (R)
BK
GK
RK
B CRT DRIVE Assy
G CRT DRIVE Assy
R CRT DRIVE Assy
Centering magnet
(Turn in either direction untill cross signal becomes white.)

Adjustment Items

1. Brightness Adjustment
2. Deflection Yoke Adjustment
3. Focus Adjustment
4. Screen Size Adjustment
5. Convergence Adjustment
6. White Balance Adjustment
7. Panel Adjustmen for 480i
8. Panel Adjustment for 480P

Assembly Adjustment Location Guide

If POWER SUPPLY ASSY	is repaired or replaced	❺ Convergence Adjustment
If DEFLECTION SERVICE ASSY	is repaired or replaced	❶ Brightness Adjustment (*2) ❸ Focus Adjustment (VR1: FOCUS VR) (*2) ❹ Screen Size Adjustment (*2) ❺ Convergence Adjustment (*2) ❻ White Balance Adjustment (*2)
If R, G or B CRT DRIVE ASSY	is repaired or replaced	❶ Brightness Adjustment (*1) ❻ White Balance Adjustment (Composite STD :*1, Others :*2)
If DIGITAL CONV. ASSY	is repaired or replaced	❸ Focus Adjustment (*2) ❹ Screen Size Adjustment (*2) ❺ Convergence Adjustment (*2)
If VIDEO UCOM SERVICE ASSY	is repaired or replaced	❶ Brightness Adjustment (*2) ❻ White Balance Adjustment (Composite STD : *1, Others :*2) ❼ Panel Adjustment for 480i (*1) ❽ Panel Adjustment for 480P (*1)
If SIGNAL ASSY	is repaired or replaced	No adjustment is required
If DVI SERVICE ASSY	is repaired or replaced	No adjustment is required
If CRT ASSY (R, G or B)	is repaired or replaced	❶ Brightness Adjustment (*1) ❷ Deflection Yoke Adjustment (*1) ❸ Focus Adjustment (Lens : *2, VR1 Focus VR :*1) ❺ Convergence Adjustment (*2) ❻ White Balance Adjustment (Composite STD : *1, Others :*2)
If LENS ASSY (R, G or B)	is repaired or replaced	❸ Focus Adjustment (Lens : *1, VR1 Focus VR :*2) ❺ Convergence Adjustment (*2)
If MIRROR and SCREEN	is repaired or replaced	❺ Convergence Adjustment (*2)
If OTHER ASSY	is repaired or replaced	No adjustment is required

Note :
*1: Readjustment necessary
*2: Turn on the power and confirm the screen. When adjustment deviates, it is readjusted if necessary.

- When the EEPROMs are replaced, check the status of the unit.
- If any IC of the EEPROM is damaged, readjustment of all the items is necessary.

- The necessary adjustment items differ, depending on the assembly or optical part replaced. Check and readjust the adjustment items corresponding to the replaced assembly or part, following adjustment procedures 1 to 8.
  Example: When the DIGITAL CONV. Assy is replaced, perform the following:
  3. Focus check/adjustment → 4. Screen size check/adjustment → 5. Convergence check/adjustment

6.4 FOR DIGITAL INPUT

This model equips INPUT5 and INPUT6 with DIGITAL input terminals (DVI Ver1.0 with HDCP). Product is not turned on the power when performed the following operation for the HDCP (copy protection) protection.

1. When turned on the power in the state that removed the rear cover of the product. Or when turned on the power in the state that removed the rear cover.
2. When turned on the power in the state that removed lead wires connected to the DVI Assy.
3. When turned on the power in the state that removed the DVI Shield Case.

When the protection function works, main power SW is the state of ON, and standby LED (red) flashes.
(repeat flashing :250ms on and 250ms off)
When the protection works once, power does not on till releases the protection.

• Release method is as follows

1. Continue pressing the "RETURN" key on the front panel more than five seconds, and turn standby LED into the lighting state.
2. Press the "POWER" key → "RETURN" key → "INPUT/SET" key in order within five seconds after standby LED lighted.
3. Press the "POWER" key, and turn on the product.
4. When were not able to press keys within five seconds in step 2 operation or mistook key operation, repeat step 1 and 2 because enter t the protection mode again.
5. When confirm a malfunction symptom of the product, enter the test mode temporarily so that the protection function does not work again.
   Press the FACTORY key on the Front Panel twice, and enter the 2nd FACTORY mode. Press "48" key with the remote control unit, and enter the TEST mode. (display "TEST MODE" on the screen, and display it till releases the test mode.)
6. After work completion, return the product to the original state. Enter the 2nd FACTORY mode, and release the test mode by pressing the "47" key.

• About flashing of LED

Show the following state by flashing of LED.

1. Specification of red LED

- Standby
  lighting
- After having shifted from power management operation to normal standby (operation when released the power management by the power off), continue lighting after flashing three times: Repeat 500ms off and 500ms on three times, and continue lighting.

- During copy protection operation
  Flashing: Repeat 250ms on and 250ms off.

- Relay welding
  Repeat three times flashing and once stop: Repeat 100ms on ,100ms off ,100ms on ,100ms off ,100ms on ,100ms off and 1S off.

2. Specification of green LED

- Power on
  lighting
- During power-saving mode operation (power management)
  Flashing: Repeat 2s on and 2s off.

About power management:
When input signal disappears only at the time of INPUT5 and 6, it becomes the power-saving mode. (Refer to page 248.)

6.5 FACTORY ADJ MODE

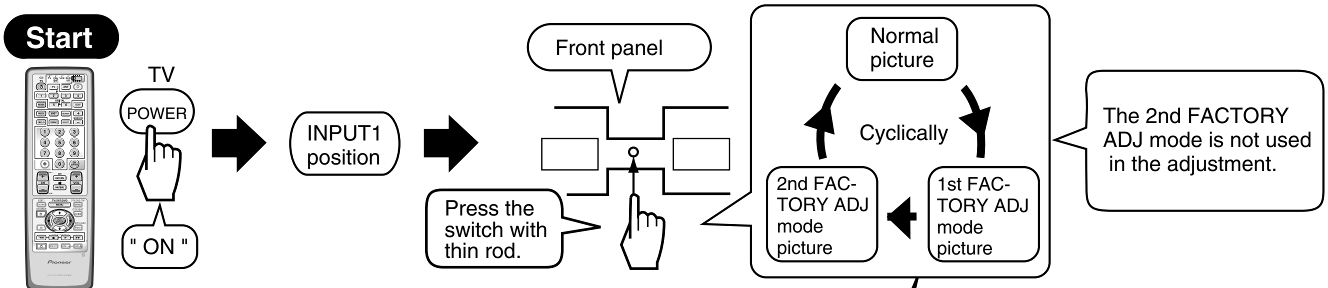
Start .... Start adjusting

1st FAC ...... Select 1st FACTORY ADJ mode, then adjust.

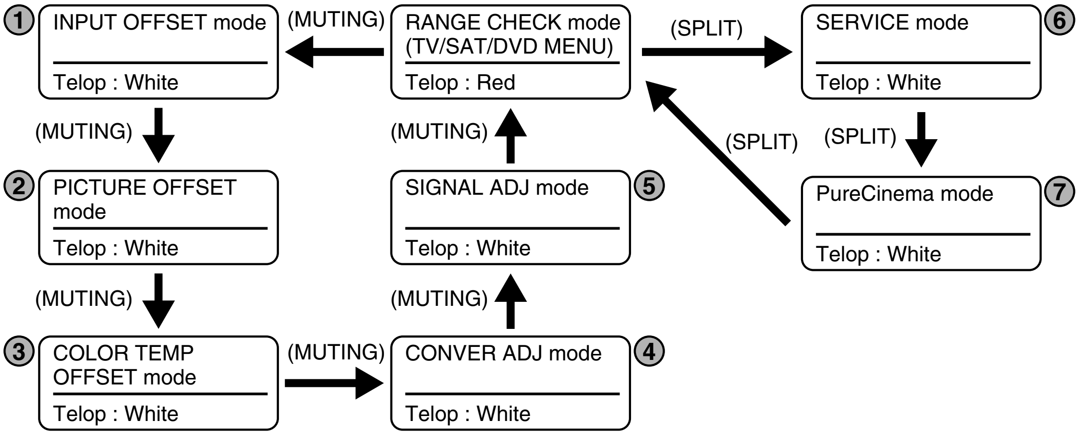
Factory Adjustment Mode

Select 1st FACTORY ADJ Mode

Selecting the mode for adjustment operations.


Start
TV
POWER
" ON "
INPUT1 position
Front panel
Press the switch with thin rod.
Normal picture
Cyclically
1st FACTORY ADJ mode picture
2nd FACTORY ADJ mode picture
The 2nd FACTORY ADJ mode is not used in the adjustment.

- To enter FACTORY mode, use the key(s) on the remote control unit or main unit. To release FACTORY mode, use the key(s) of the remote control unit or the main unit, or turn the power off. If the unit remains in FACTORY mode without any operation for 8 minutes, it will be automatically released.
- In FACTORY mode, data for the picture and audio qualities are standard, and the FLESH TONE setting is always off.
- When the unit enters FACTORY mode, settings such as audio muting, MENU, and SPLIT (two split-screens) are released.
- The Convergence data which user adjusted are within the FACTORY mode. Clear the convergence data by releasing the FACTORY mode after it is further within the MANUAL CONVER mode or OFFSET CONVER mode.
- When the unit exits FACTORY mode, the TV/CATV mode becomes AIR (settings of ANT and CH are those last stored in memory).
- CONVER. OSD (cross hatch) can be turned on and off cyclically by using the YELLOW key only during CONVER mode (MANUAL, AUTO, OFFSET adjustments).
  (Default: The cross hatch is on only in CONVER. mode.)


① INPUT OFFSET mode
Telop : White
② PICTURE OFFSET mode
Telop : White
③ COLOR TEMP OFFSET mode
Telop : White
④ CONVER ADJ mode
Telop : White
⑤ SIGNAL ADJ mode
Telop : White
RANGE CHECK mode (TV/SAT/DVD MENU)
Telop : Red
⑥ SERVICE mode
Telop : White
⑦ PureCinema mode
Telop : White
(MUTING)
(MUTING)
(MUTING)
(MUTING)
(MUTING)
(MUTING)
(SPLIT)
(SPLIT)
(SPLIT)

① INPUT OFFSET Mode

INPUT OFFSET MODE
1. STD
2. COMP (15kHz)
3. COMP (31kHz)
4. COMP (33kHz)
5. COMP (45kHz)
6. PURE RGB
7. PURE RGB (DVI)
8. TV

Adjustment for service is only
1. STD, 4. COMP (33KHz) and 6.PURE RGB.

	INPUT OFFSET Mode	Key (s) on the Remote Control Unit
1	STD	▼ (DOWN)
4	COMP (33kHz)	PinP CH+, SUB CH+
6	PURE RGB	CH ENTER

→
←
(MUTING)

STD
F1 COLOR 24

Telop : Blue

② PICTURE OFFSET Mode

PICTURE OFFSET MODE
1. RTM
2. GAME
3. MODULE
4. RGB- YCbCr: 33K
5. RGB- YCbCr: 31K

Do not perform the adjustment for service.

③ COLOR TEMP OFFSET Mode

COLOR TEMP OFFSET MODE
1. NEWS
2. LIVE
3. FILM
4. B&W
5. FILM FOR RTM

Do not perform the adjustment for service.

④ CONVER ADJUST Mode

CONVER ADJUST MODE
1. SIZE
2. OFFSET CONVER MODE1
3. OFFSET CONVER MODE2
4. OFFSET CONVER MODE3
5. FINE CONVER
6. AUTO CONVER
7. CONVER STATIC
8. DVI H.PHA ADJ

Adjustment for service is items of 1, 4 and 5.

	CONVER ADJ Mode	Key (s) on the Remote Control Unit
1	SIZE	ANT
4	OFFSET CONVER MODE3	• (DOT)
5	FINE CONVER	SET

→
←
(MUTING)

ADJUST H SIZE
F1 –20

Telop : White

- Mode changes cyclically as follows when uses the • (DOT) key.

OFFSET CONVER MODE1 → OFFSET CONVER MODE2 → OFFSET CONVER MODE3 (→ back to MODE1)

For Adjustment of this item, screen mode has two modes as FULL and HD.
Screen mode changes by the "SCREEN" key cyclically.

FULL ←→ HD

⑤ SIGNAL ADJ Mode

SIGNAL ADJ MODE
1. 480I PANEL
2. 480P PANEL
3. SIGNAL
4. TUNER TEST MODE
5. AUTO ACL
6. DVI LPF ADJ

Adjustment for service is items of 1, 2 and 5.

	SIGNAL ADJ Mode	Key (s) on the Remote Control Unit
1	480I PANEL	CH RET
2	480P PANEL	▶ (RIGHT)
5	AUTO ACL	PinP CH–, SUB CH–

→
←
(MUTING)

ADJUSTMENT 480I PANEL
BRIGHT –10

Telop : Yellow

⑥ SERVICE Mode

SERVICE MODE
1. TIME SPACE FILTER
2. Y – MOTION ADAPTATION
3. C – MOTION ADAPTATION
4. AFC SYSTEM
5. IP SETTING
6. FREQ JUDGMENT ADJ

Do not perform the adjustment for service.

⑦ PureCinema Mode

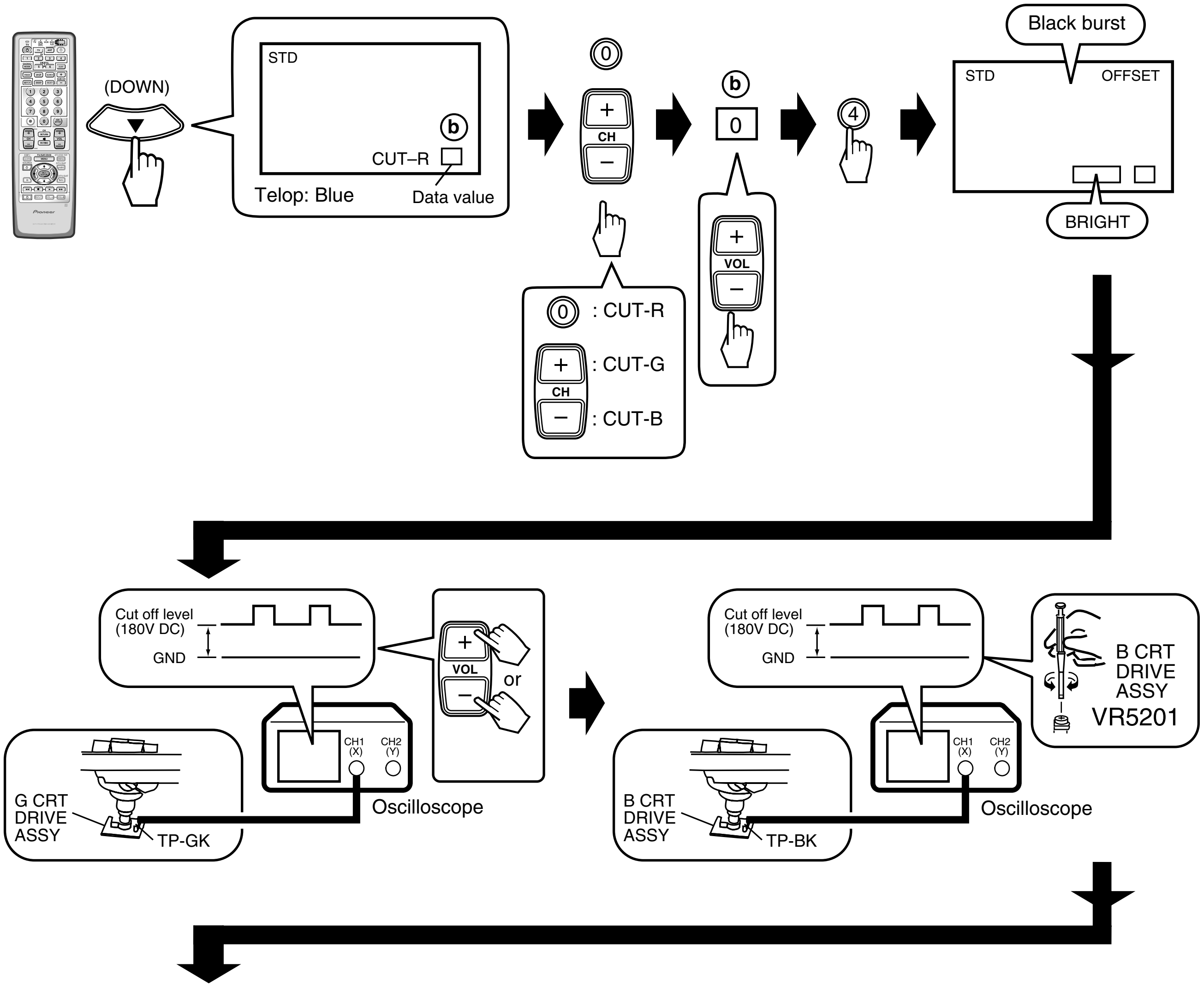
PureCinema MODE
1. 2 – 3 COMPONENT ADJ
2. 2 – 3 S–VIDEO ADJ
3. 2 – 3 COMPOSITE ADJ
4. 2 – 2 COMPONENT ADJ
5. 2 – 2 S–VIDEO ADJ
6. 2 – 2 COMPOSITE ADJ

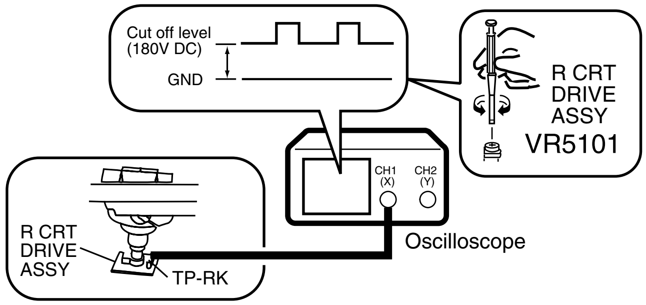
Do not perform the adjustment for service.

6.6 ADJUSTMENT

❶ Brightness Adjustment

Start **1st FAC** Input signal : Black Burst (INPUT 1)


(DOWN)
STD
ⓑ
CUT–R
Telop: Blue
Data value
⓪
+
CH
–
⓪ : CUT-R
+ : CUT-G
CH
– : CUT-B
ⓑ
0
+
VOL
–
④
Black burst
STD
OFFSET
BRIGHT
Cut off level
(180V DC)
GND
+
VOL
–
or
CH1 (X)
CH2 (Y)
Oscilloscope
G CRT DRIVE ASSY
TP-GK
Cut off level
(180V DC)
GND
B CRT DRIVE ASSY
VR5201
CH1 (X)
CH2 (Y)
Oscilloscope
B CRT DRIVE ASSY
TP-BK


Cut off level
(180V DC)
GND
R CRT DRIVE ASSY
VR5101
CH1 (X)
CH2 (Y)
Oscilloscope
R CRT DRIVE ASSY
TP-RK

When the DEFLECTION SERVICE Assy or VIDEO UCOM SERVICE Assy is replaced, check the following to confirm if the above adjustment is necessary:

(1) Make a note of the data of CUT R, CUT G, CUT B, and BRIGHT. (1st FAC) (▼ DOWN)

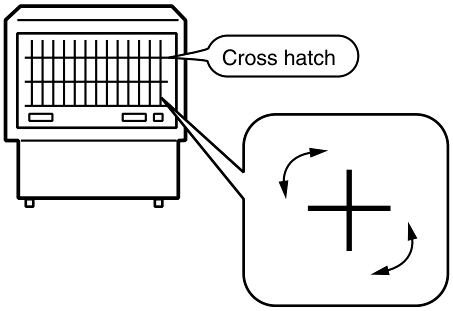
(2) Input "0" as parameters for (1) and check TP-RK, TP-GK and TP-BK of the CRT DRIVE assembly. If the levels are within 180 V ±5 V, the adjustment is not necessary.
Input the noted data.
If the levels are not within the above level, proceed with the above adjustment.

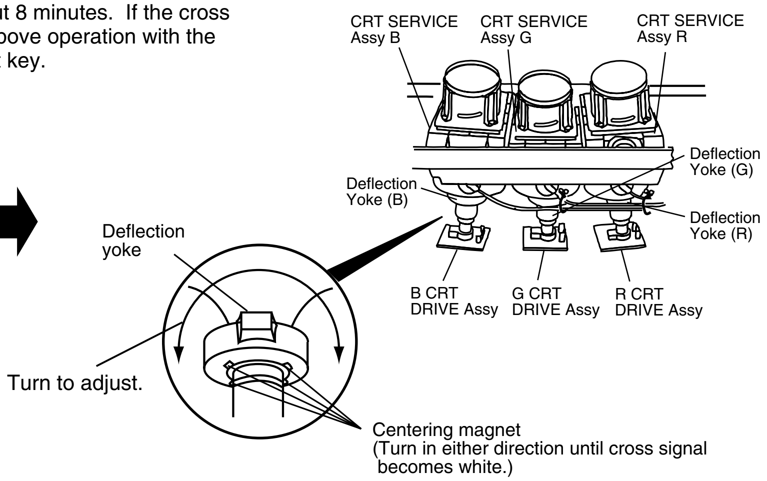
② Deflection Yoke Adjustment

②-1 Deflection Yoke Lean Adjustment

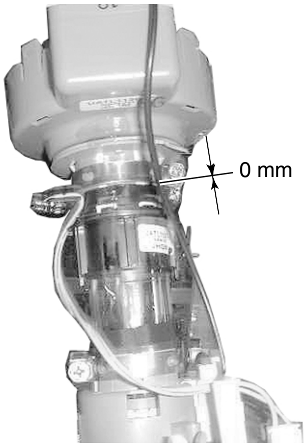
Start

- Input a stable signal (e.g. from an DVD / LD player or SG) to the INPUT 1 connector.
- MENU → SETUP → CONVERGENCE → ADJUSTMENT FOR 480P → ADJ MULTI-POINT
- The cross hatch disappears if there is no operation with the remote control unit for about 8 minutes. If the cross hatch disappears, repeat the above operation with the remote control unit or main unit key.


Cross hatch

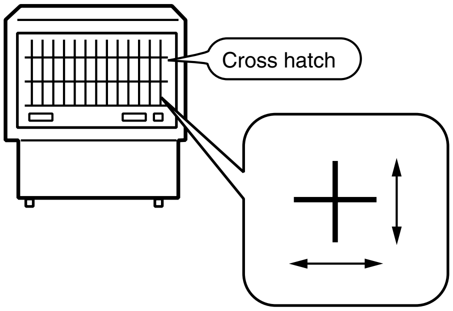

CRT SERVICE Assy B
CRT SERVICE Assy G
CRT SERVICE Assy R
Deflection Yoke (G)
Deflection Yoke (B)
Deflection Yoke (R)
B CRT DRIVE Assy
G CRT DRIVE Assy
R CRT DRIVE Assy
Deflection yoke
Turn to adjust.
Centering magnet
(Turn in either direction until cross signal becomes white.)

- Turn the deflection yoke of the replaced CRT so that the cross hatch of the color corresponding to the replaced CRT converges with that of the CRTs not replaced.
- When a CRT is replaced, check the position of the VM (Velocity Modulation) yoke.

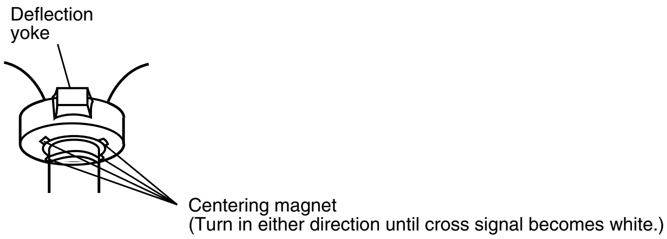


②-2 Screen Center Adjustment

Start


Cross hatch

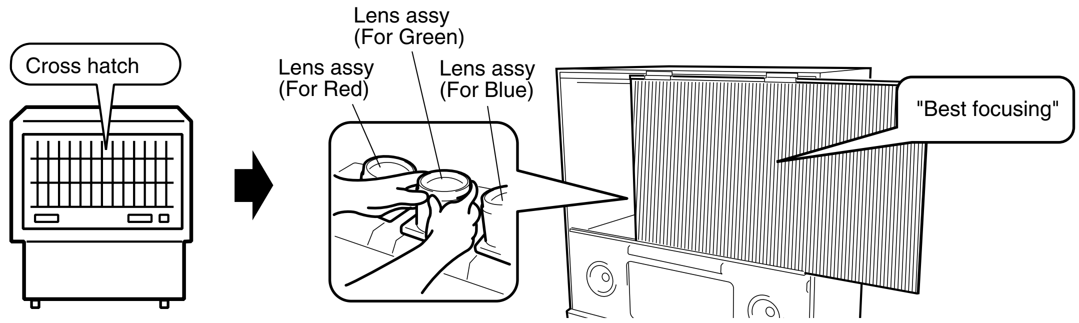
- Move the centering magnet of the deflection yoke for the replaced color so that the horizontal and vertical lines at the center of the screen align with the lines for a color not replaced.
- Apply an adhesive between the neck part of CRT and centering magnet so that the centering magnet of the deflection yoke does not move.


Deflection yoke
Centering magnet
(Turn in either direction until cross signal becomes white.)

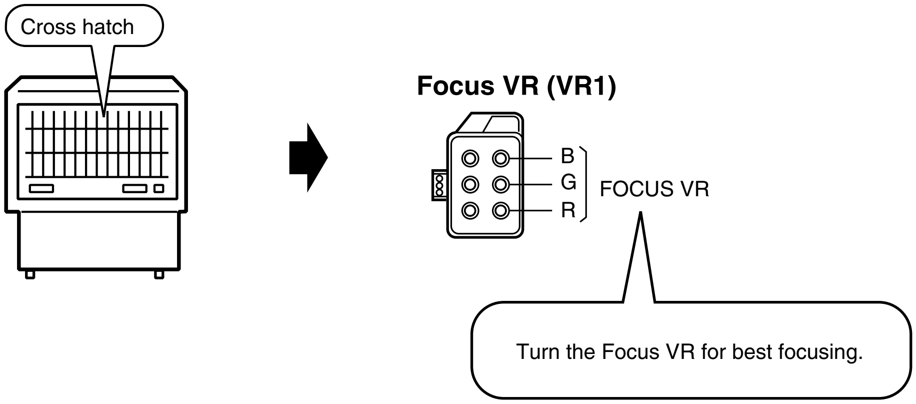
3 Focus Adjustment

3 -1 Focus Adjustment of Lens Assy

Start


Cross hatch
Lens assy (For Green)
Lens assy (For Red)
Lens assy (For Blue)
"Best focusing"

3 -2 Focus VR Adjustment


Cross hatch
Focus VR (VR1)
B
G
R
FOCUS VR

Turn the Focus VR for best focusing.

Perform lens focus adjustment after the unit has been warmed up (some time after turning the unit on with the Power switch).

Set the output to 480P

Adjust the focus of each lens so that :

For Green :

- the vertical and horizontal lines at the center become their thinnest.
- the scanning lines at the center are their strongest.
- the red halo faintly appears at the center.

For Red :

- the vertical and horizontal lines at the center become their thinnest.
- the scanning lines at the center are their strongest.

For Blue :

- the vertical and horizontal lines at the center become their thinnest.
- the green halo disappears, and the blue halo begins to appear.

Note on tightening the thumbscrew after adjustment :

Observe the crosshatch signals on the screen while tightening the thumbscrew, to check that the lens does not rotate with the thumbscrew.

4 Screen Size Adjustment

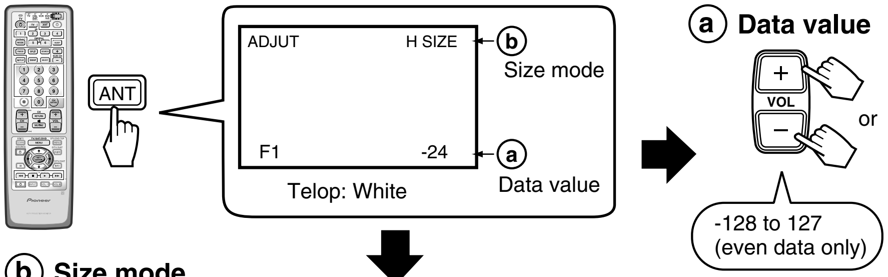
Check if both vertical and horizontal sizes are within 91% ±2%. If they are not, perform the size adjustment as follows:

4-1 Size Mode

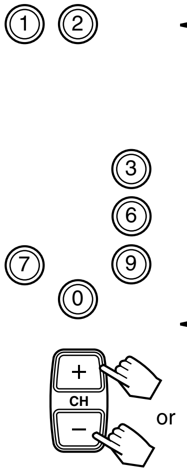
Start **1st FAC**

Note :
Screen mode : FULL

- Mode for roughly adjusting the horizontal and vertical sizes of the main deflection.
- In this mode, the color is green only, screen size is FULL and the contrast is +10.
- The above settings are cleared when this mode is exited.


ANT
ADJUT
H SIZE
ⓑ
Size mode
F1
-24
ⓐ
Data value
Telop: White
ⓐ Data value
+
VOL
–
or
-128 to 127
(even data only)

ⓑ Size mode


①
②
③
⑥
⑦
⑨
⓪
+
CH
–
or

① : H Size (15 kHz)
② : V Size

③ : H PHA (15K)
⑥ : H SIZE (HD) (fixed value "C" can be varied)
⑦ : V SIZE (HD) (fixed value "I" can be varied)
⑨ : H PHA (31K RGB)
⓪ : H PHA (33K RGB)
CH + : H PHA (31kHz)
CH – : H PHA (33kHz)

Note :
- The adjustment is unnecessory for "C" and "I" so that is set in factory shipment by the most suitable value. However, please adjust it when a screen is missed when displayed the HD source on the screen.
- For H PHA, refer to the section "• Reference."

Table on H SIZE and V SIZE data

Picture Quality Mode	H SIZE	V SIZE
FULL	A	B
HD	A+C	B+I

A, B : Adjustment values
C, I : Fixed values
A+C : Addition of A and C
B+I : Addition of B and I

- Perform the H SIZE and V SIZE adjustments only in FULL mode (NTSC MONOSCOPE signal input).
- Release the FACTORY mode, then change the screen mode and confirm that the picture is not missing.

The factory-preset values are as follows:

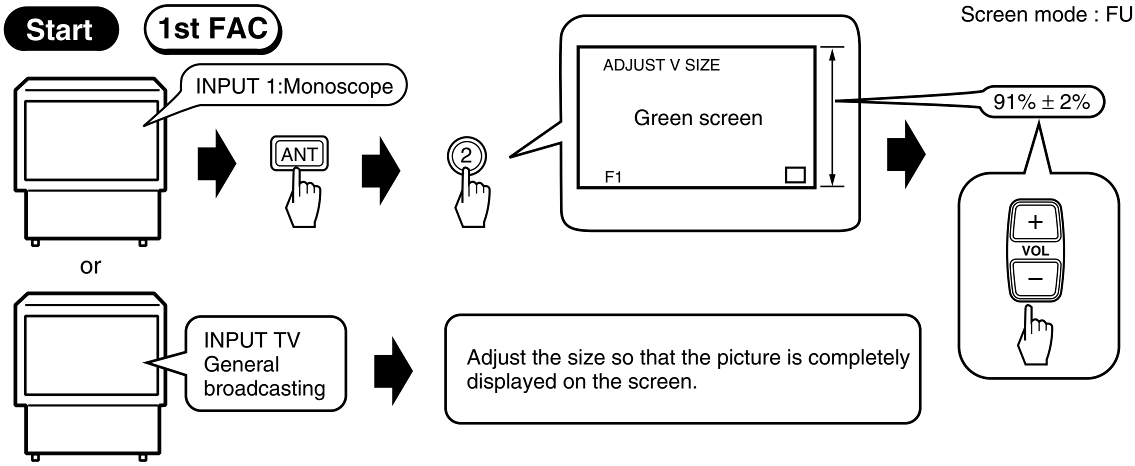
Key No.	Adjustment Value
1 : H SIZE (15K)	Approx. -36 ± 30
2 : V SIZE	Approx. +01 ± 10
6 : H SIZE (HD)	Approx. +27 ± 30
7 : V SIZE (HD)	Approx. +06 ± 10

Note: Varies depending on the factory-preset value.

4-2 Vertical Size Adjustment

Start **1st FAC**

Note :
Screen mode : FULL

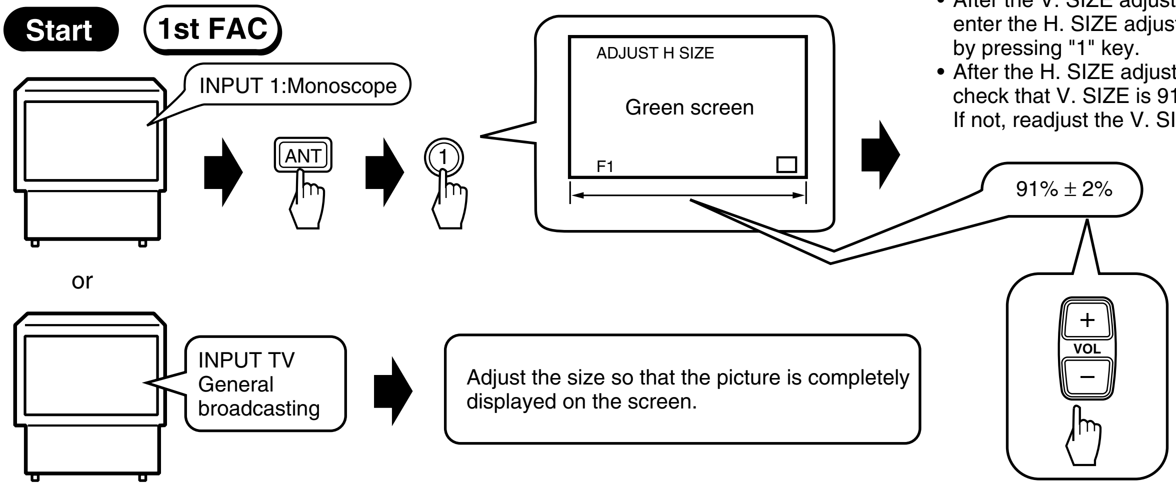

INPUT 1:Monoscope
ANT
2
ADJUST V SIZE
Green screen
F1
91% ± 2%
+
VOL
–
or
INPUT TV
General
broadcasting

Adjust the size so that the picture is completely displayed on the screen.

❹-3 Horizontal Size Adjustment

Note :
Screen mode : FULL

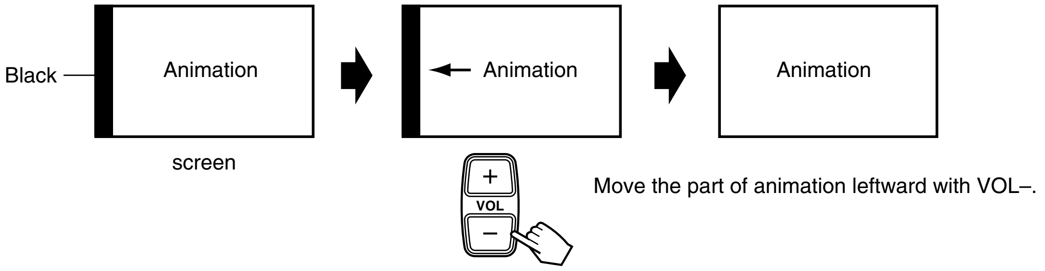
Note :
- After the V. SIZE adjustment, enter the H. SIZE adjustment by pressing "1" key.
- After the H. SIZE adjustment, check that V. SIZE is 91± 2%. If not, readjust the V. SIZE.


Start
1st FAC
INPUT 1:Monoscope
ANT
1
ADJUST H SIZE
Green screen
F1
91% ± 2%
or
INPUT TV
General
broadcasting
Adjust the size so that the picture is completely displayed on the screen.
+
VOL
–

• Reference

The H PHASE adjustment is required if the left or right part of the screen becomes black, as illustrated below, depending on the format of the input signal (Ex. component 31.5 kHz, RGB 33K etc.).

Ex. Component 31K


Black
Animation
screen
Animation
+
VOL
–
Animation

Move the part of animation leftward with VOL–.

• About H. PHASE

In principle, adjustment of the data for the H. PHASE is not required.
Check whether the H. PHASE data are the factory-preset values, as indicated below:

Key No.	Adjustment Value
3 : H PHA (15K)	8
CH+ : H PHA (31K COMP)	10
CH- : H PHA (33K COMP)	10
9 : H PHA (31K RGB)	15
0 : H PHA (33K RGB)	11

15K : CONPOSITE, S COMPONENT (480i)
31K : COMPONENT (480P)
33K : COMPONENT (1080i)
31K RGB : RGB (480P)
33K RGB : RGB (1080i)

The screen moves to the right or the left if the above data are in variance. (See the above figures.)

Note :
H PHASE is set in factory shipment by the most suitable value. But, there is the case that screen is missed as an upper figure occurs by the signal format of other apparatus to be connected to.
A screen can be improved as the following by the readjustment. However, attention is necessory because in convenience may occur when connected to another apparatus.

❺ CONVERGENCE ADJUSTMENT

1. Procedures

1. When replacinf the DIGITAL CONV. Assy, replace the EEPROM of new DIGITAL CONV. Assy with the EEPROM of old DIGITAL CONV. Assy.
2. Check the initial data for the convergence adjustment.
3. Perform the coarse adjustment for the green to roughly correct distortion of the green.
4. Fine-adjust the green to eliminate any distortion. The green becomes the standard for the red and the blue.
   If necessary, repeat steps 3 and 4. Green adjustment is completed.
5. Perform the coarse adjustment for the red by roughly converging the red with the green.
6. Fine-adjust the red until the red is completely converging with the green.
   If necessary, repeat steps 5 and 6. Red adjustment is completed.
7. Perform the coarse adjustment for the blue by roughly converging the blue with the green.
8. Fine-adjust the blue until the blue is completely converging with the green.
   If necessary, repeat steps 7 and 8. Blue adjustment is completed.
9. Display the green, red, and blue colors at the same time to check the convergence. Readjust the convergence if necessary.

2. Prior to Adjustment

There are five screen modes, but convergence adjustment is required for two mode. For adjustment, input the following video signal:

Table 1 Input signal

Screen Mode	Input Signal
1. FULL (FULL, 4:3 NORMAL) (ZOOM) (CINEMA WIDE) (NATURAL WIDE)	NTSC (480i) signal
2. HD (HD/DTV)	HD/DTV (1080i) signal

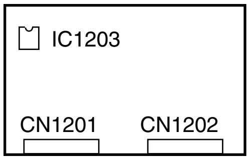
NTSC : Stable signal source, such as an SG or an LD/DVD player.
HD : Stable signal source, such as an HD SG or a DTV tuner (SH-D09, etc.)

When CRTs are replaced or when the deflection yoke is moved, perform the deflection yoke adjustment, horizontal and vertical size adjustments, and centering magnet adjustments before the convergence adjustment. (See Pages 157, 159 and 160.)

3. Convergence Adjustment

3.1 Replacement of the EEPROMs Inside the DIGITAL CONV. Assy

IC1203: 24LC64(I)P



DIGITAL CONV. ASSY

The data stored in the EEPROMs are as follows:
IC1203
  OFFSET CONVER. MODE 1 (DFH, DFV)
  OFFSET CONVER. MODE 3
  Factory-preset values for convergence
  User-adjusted values for convergence (CENTER, MULTI-POINT)
IC1903 (VIDEO UCOM SERVICE Assy)
  OFFSET CONVER. MODE 1 (except DFH and DFV)
  OFFSET CONVER. MODE 2

3.2 Confirmation of Convergence Data

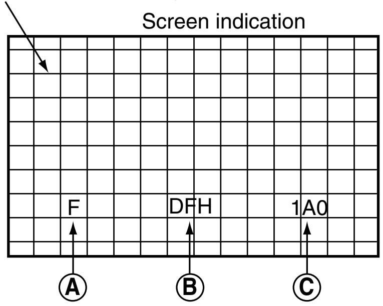
The convergence coarse adjustment modes change cyclically, as shown below, with each press of the INPUT4 key in FACTORY mode:

Convergence coarse adjustment

→ DOT key (pressed once) : OFFSET CONVER. MODE 1
↓
DOT key (pressed twice) : OFFSET CONVER. MODE 2
↓
DOT key (pressed three times) : OFFSET CONVER. MODE 3
Cyclical change

Check whether the data of MODE 1 and MODE 2 are as shown in Table 2.

The cross-hatch signal is generated inside the unit, and is automatically displayed in OFFSET CONVER. mode and MANUAL CONVERGENCE mode. You can turn on and off the cross-hatch signal with the YELLOW key.



Ⓐ

Screen mode:
F : FULL H : HD
The Screen modes change cyclically with each press of the SCREEN mode key.

Ⓑ

Adjustment items can be selected with the numeric keys. See Table 2.

Ⓒ

Adjustment data:

MAX	1FF
	100
	001
CNT	000
	3FF
	2FF
MIN	200

Data can be adjusted with the VOL+ and VOL- keys.

VIDEO UCOM SERVICE ASSY

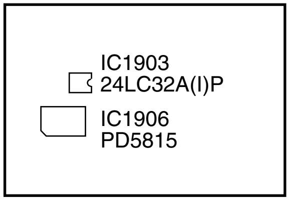


Table 2 OFFSET CONVER DATA

OFFSET CONVER MODE 1			
Numeric Key	**Adjustment Item**	**Screen Mode**	
		FULL	**HD FULL**
1	DFH	1A0	1A0
2	DFV	06A	06A
3	DF1	00F	00F
4	DF2	000	000
5	HPP	14C	14A
6	HPW	00B	00C
7	HTP	029	02C
8	VTP	034	009

OFFSET CONVER MODE 2			
Numeric Key	**Adjustment Item**	**Screen Mode**	
		FULL	**HD FULL**
1	V1D	022	012
2	V1C	020	01E
3	V10	000	000
4	VFP	003	03C
5	HFP	120	120
6	H1R	001	001
7	HCP	00F	00F
8	H10	01A	016

The above offset convergence values are common to the PRO-530HD, PRO-630HD and PRO-730HD.

If the offset convergence values are as indicated in Table 2, proceed to 3.3. If the values are not the same, adjust the values with the numeric keys and VOL +/– keys.

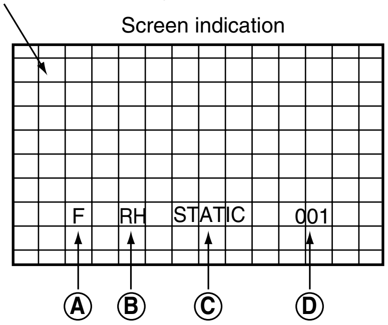
Example:
To check DFI in FULL mode of OFFSET CONVER. MODE 1

① Enter the FACTORY mode.
② Enter the OFFSET CONVER. MODE 1 by pressing the DOT key once.
③ Enter the FULL screen mode by pressing the SCREEN mode key once. (When the unit enters FACTORY mode, the screen mode automatically becomes FULL.)
④ Check the indication on the screen by pressing the numeric key 3.
Indication at the bottom of the screen : F DFI 00F
If the adjustment value is 00F, adjustment is not required.
If the adjustment value is other than 00F, adjust with the VOL + or VOL- key so that the value becomes 00F.

3.3 Coarse Adjustment of the Green

(Proceed with 3.3 and afterwards when the DIGITAL CONV. Assy is not replaced.)
Select adjustment items (STATIC and SIZE of vertical and horizontal lines, etc.) for each GH and GV, and adjust to roughly eliminate distortion. (For GV, peripheral pin distortion adjustment is necessary.)
Press the DOT key three times to enter OFFSET CONVER. MODE 3.
Press the SCREEN mode key and proceed with the adjustment for each screen mode.

The cross-hatch signal is generated inside the unit, and is automatically displayed in OFFSET CONVER. mode and MANUAL CONVERGENCE mode. You can turn on and off the cross-hatch signal with the YELLOW key.



Ⓐ

Screen mode:
F : FULL
H : HD

The Screen modes change cyclically with each press of the SCREEN mode key.

Ⓑ

Cyclically changes with the CH+ or CH- key as follows:

RH ←→ RV ←→ BH
↕ ↕
GV ←→ GH ←→ BV

Ⓒ

Adjustment items can be selected with the numeric keys.
See Table below.

• Waveforms adjustable in the coarse adjustment of the green

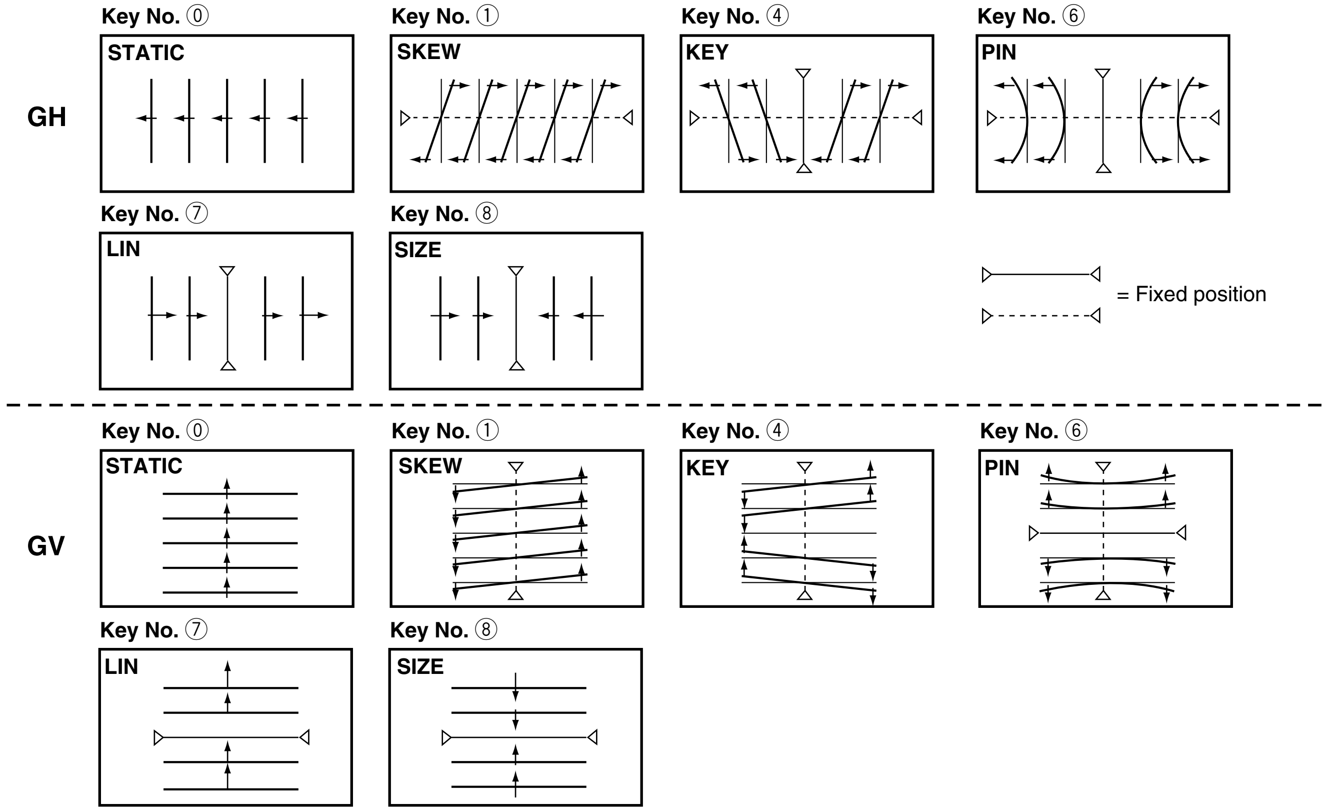
Numeric Key	GH	GV
0	STATIC	STATIC
1	SKEW	SKEW
4	KEY	KEY
6	PIN	PIN
7	LIN	LIN
8	SIZE	SIZE

Ⓓ

Adjustment data:
MAX ↑ 1FF
100
001
CNT • 000
3FF
2FF
MIN ↓ 200

Data can be adjusted with the VOL+ and VOL- keys.

• Pattern for each adjustment item



Note 1: When the Green CRT is replaced, or when the deflection yoke for the green is replaced, prior to the convergence adjustment, tune the center of the image to the center of the screen by turning the centering magnet.

Note 2: When the DEFLECTION SERVICE Assy or DIGITAL CONV. Assy is replaced, make coarse adjustment as shown in 3.3 above.

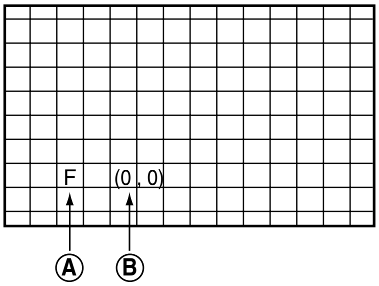
3.4 Fine-adjustment of the Green

Enter MANUAL CONVERGENCE mode by pressing the SET/ENTER key, and make adjustments. Repeatedly make the coarse adjustment as shown in 3.3 if necessary. Proceed with the adjustment for each screen mode. Adjusted values for the green become the standard for the red and the blue.

3.4.1

In MANUAL CONVERGENCE mode entered by pressing the SET/ENTER key, the display becomes as shown below:

Screen indication



Ⓐ

Screen mode:
F : FULL
H : HD

The Screen modes change cyclically with each press of the SCREEN mode key.

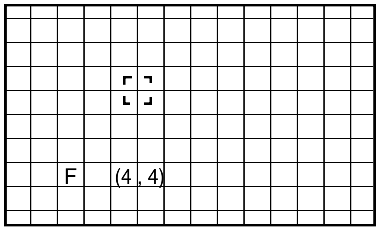
Ⓑ

Coordinates where the cursor (adjustment point) is located
There are 72 adjustment points (8,9) on the coordinates for FULL and HD modes,
but the coordinates actually used for adjustment are as follows (the coordinates outside the ranges indicated below are outside the screen, and adjustment will not have any effect on the screen):
FULL : (0, 1) to (7, 9)
HD : (0, 1) to (7, 9)
(X, Y): X=abscissa, Y=ordinate
Some coordinates may be outside the screen and invisible.
The point at coordinates (0, 0) is at the upper left of the screen.

3.4.2

Move the cursor to a point to be adjusted with the cursor move keys.

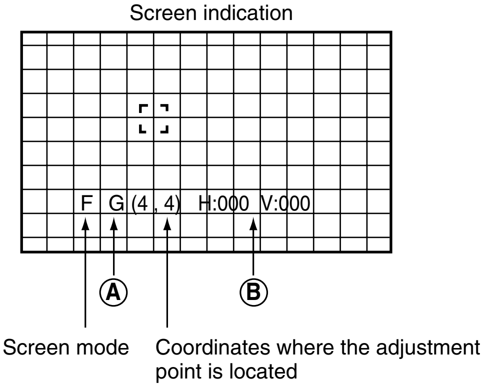
Screen indication



Note: The actual shape of the cursor is " [ ] ".
The position of the cursor in this figure is different from the actual position on the screen.

3.4.3

Press the SET/ENTER key when the point to be adjusted is determined.



Ⓐ

Color to be adjusted:
G: GREEN, R: RED, B: BLUE
To change colors, use the CH+ or CH- key.
The colors change cyclically as follows:
With CH+ : R → B → G → R
With CH- : R → G → B → R

Ⓑ

H : *** Adjustment data in the horizontal direction
V : *** Adjustment data in the vertical direction
(***= hexadecimal number)

Data MAX ↑ 1FF
100
001
CNT • 000
3FF
2FF
MIN ↓ 200

For adjustment, move the Line to the desired direction with the cursor keys.
To move the Horizontal Line upward, press the " ▲ " key. (The value decreases.)
To move the Horizontal Line downward, press the " ▼ " key. (The value increases.)
To move the Vertical Line to the left, press the " ◀ " key. (The value decreases.)
To move the Vertical Line to the right, press the " ▶ " key. (The value increases.)

- To select one color, use the RED key for the red, GREEN key for the green, BLUE key for the blue. Pressing this key toggles color muting on or off.
- To mute all the colors, press the DISPLAY key. To release muting, press the RED, GREEN or BLUE key.
- To erase the cross hatch, press the YELLOW key. Pressing this key toggles between display of the cross hatch screen and the input screen.
- To change the brightness of the input screen, use the VOL+ or VOL- key. The brightness increases with the VOL+ key (CONTRAST +10) and decreases with the VOL- key (CONTRAST -40). (The brightness can be changed only in Fine-adjustment mode. The brightness of the cross hatch screen cannot be changed.)

3.4.4

When adjustment of the selected point is finished, press the SET/ENTER key, then adjust the other adjustment points by repeating 3.4.1 to 3.4.4.

3.4.5

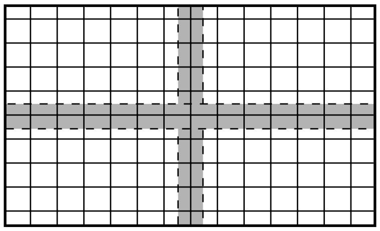
Make the adjustment for the green in each screen mode, and use the green as the standard screen for the red and the blue. To change screen modes, use the SCREEN mode key.

Note: Some coordinates for adjustment points are located outside the screen. Be sure not to make adjustments on those points, because adjustment of those coordinates will have little effect on the screen.

● Adjustment Technique

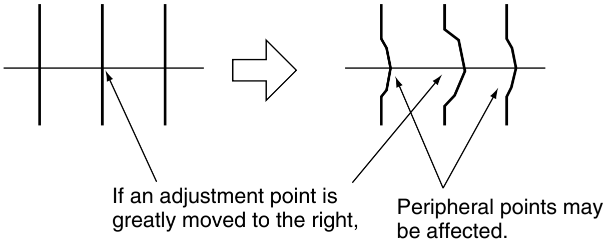
1st step

Adjust so that the vertical and horizontal lines forming a cross at the center of the screen become straight. Check also the screen size and the linearity of the horizontal and vertical lines.

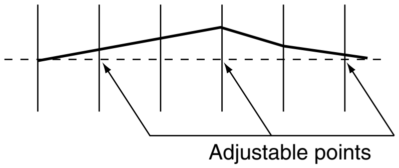


- See "3.3 Coarse adjustment of the green."
  Adjust GH STATIC, SKEW and SIZE, and GV STATIC, SKEW, PIN and SIZE to correct the screen location, tilt, screen information volume, and peripheral pin distortion.
- See "3.4 Fine-adjustment of the green."
  Fine-adjust the linearity of the vertical and horizontal lines forming a cross at the center of the screen.

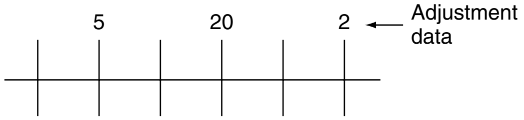
Note: In principle, only the selected point is changed in MANUAL CONVER. mode. However, as the adjusted data (amount of adjustment) increase, peripheral points may be affected. So be sure not to greatly change the adjustment data of one point, but change peripheral points at the same time. See the examples below.


If an adjustment point is greatly moved to the right,
Peripheral points may be affected.

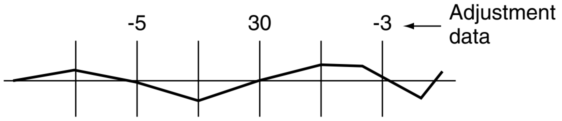
In a case of an error in convergence:



Good adjustment:

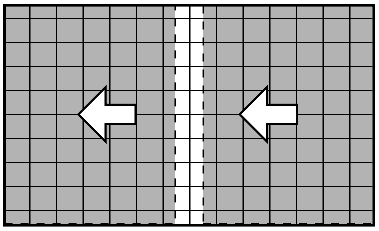


Bad adjustment:



2nd step

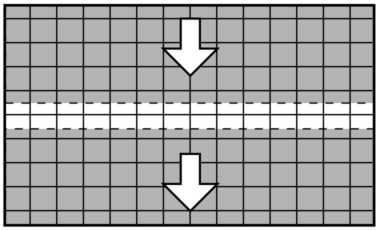
Adjust so that the vertical lines become straight, taking care to preserve proper screen information volume and the linearity. Adjust the right half of the screen first, then the left half. (See 3.4.)



Right half : Adjust from the edge toward the center.
Left half : Adjust from the center toward the edge.

3rd step

Adjust so that the horizontal lines become straight. Adjust the upper half of the screen first, then the lower half. (See 3.4.)



Upper half : Adjust from the edge toward the center.
Lower half : Adjust from the center toward the edge.

4th step

Repeat 2nd and 3rd steps to take total balance. Then the adjustment for the green is completed.
To return from the fine adjustment mode to the coarse adjustment mode, press the MENU key once, then the DOT key.

Note: When the MENU key is pressed to quit MANUAL CONVERGENCE mode, the display will be unstable for several seconds. This is because the adjustment data are being written to the EEPROMs, and is not a malfunction. Do not perform any operation (power on/off, or pressing keys on the remote control unit or on the main unit, etc.) during this period, because doing so may affect your adjustment data.

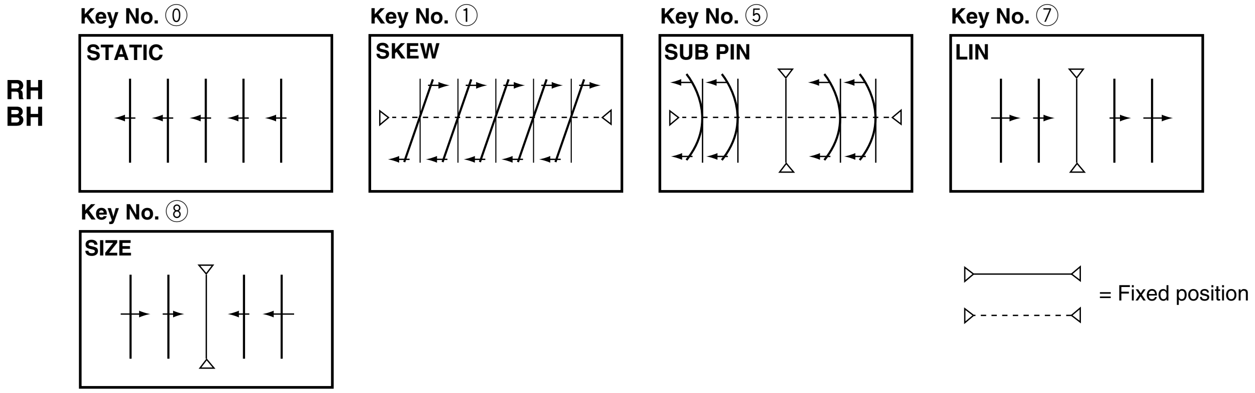
3.5 Coarse Adjustment of the Red

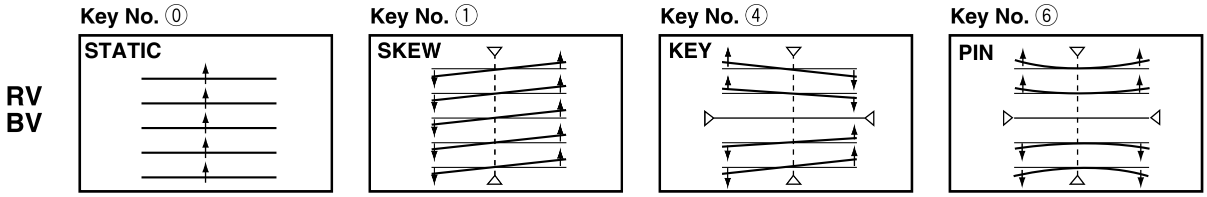
After the green adjustment is completed, quit MANUAL CONVERGENCE mode by pressing the MENU or MUTING key, then press the DOT key three times to enter OFFSET CONVER. MODE 3.
Select adjustment items for RH and RV, and roughly correct distortion to converge with the green. Adjustment is required for each screen mode

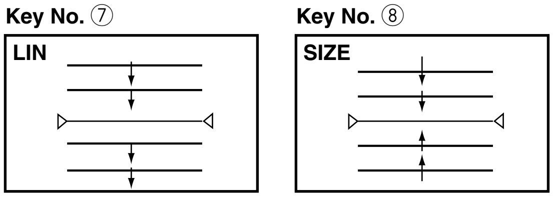
For adjustable items of the red and the blue, see the following table.

Numeric Key	RH	RV	BH	BV
0	STATIC	STATIC	STATIC	STATIC
1	SKEW	SKEW	SKEW	SKEW
4		KEY		KEY
5	SUBPIN		SUBPIN	
6		PIN		PIN
7	LIN	LIN	LIN	LIN
8	SIZE	SIZE	SIZE	SIZE

• Pattern for each adjustment item







Note 1: When the red CRT is replaced, or when the deflection yoke for the red is replaced, prior to adjustment, tune the center of the image to the center of the screen by turning the centering magnet.

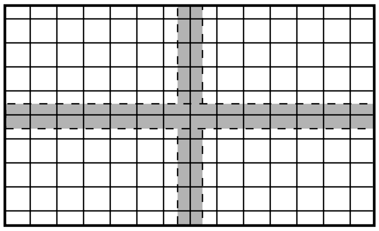
Note 2: When the DEFLECTION SERVICE Assy or DIGITAL CONV. Assy is replaced, make coarse adjustment as shown in 3.5 above.

3.6 Fine-adjustment of the Red

To fine-adjust the red, press the SET/ENTER key to enter MANUAL CONVERGENCE mode. Repeat the coarse adjustment described in "3.5 Coarse Adjustment of the Red" if necessary. Make adjustment for each SCREEN mode, and eliminate distortion to converge with the green.

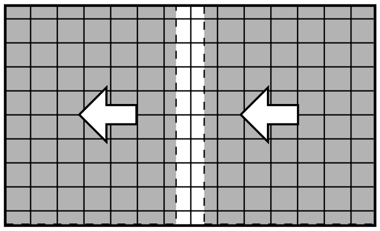
3.6.1

Press the SET/ENTER key to enter MANUAL CONVERGENCE mode, and make adjustment in the same manner as with the green. First, adjust the vertical and horizontal the red lines at the center of the screen so that they converge with the green center lines.



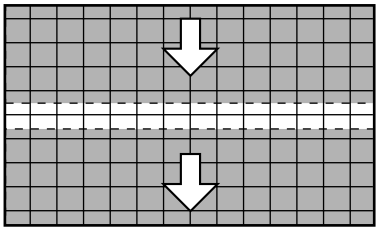
3.6.2

Adjust the red vertical lines so that they converge with the green vertical lines. Proceed to adjustment of the right half of the screen, then the left half. Adjustment should be done from the part where convergence is greatly dislocated.



3.6.3

Adjust the red horizontal lines so that they converge with the green horizontal lines. Proceed to adjustment of the upper half of the screen, then the lower half. Adjustment should be done from the part where convergence is greatly dislocated.



3.6.4

Repeat the adjustments described in 3.6.2 and 3.6.3 so that all the red vertical and horizontal lines converge with the green lines. (Completion of one screen mode)

3.6.5

Repeat procedures 3.6.2 through 3.6.4 for the other screen modes.
(Completion of the red adjustment)

3.7 Coarse Adjustment and Fine Adjustment of the Blue

Make coarse and fine-adjustments of the blue in the same manner as with the red, described in 3.5 and 3.6.

3.8 Confirmation of Adjustment

After the green, red, and blue adjustments are finished, check convergence errors with the patterns for all three colors on the monitor.
Check the patterns in all SCREEN modes, and if any error in convergence is recognized, readjust convergence in MANUAL CONVER. mode.

Note: Be sure NOT to change the green pattern during readjustment.

IMPORTANT!

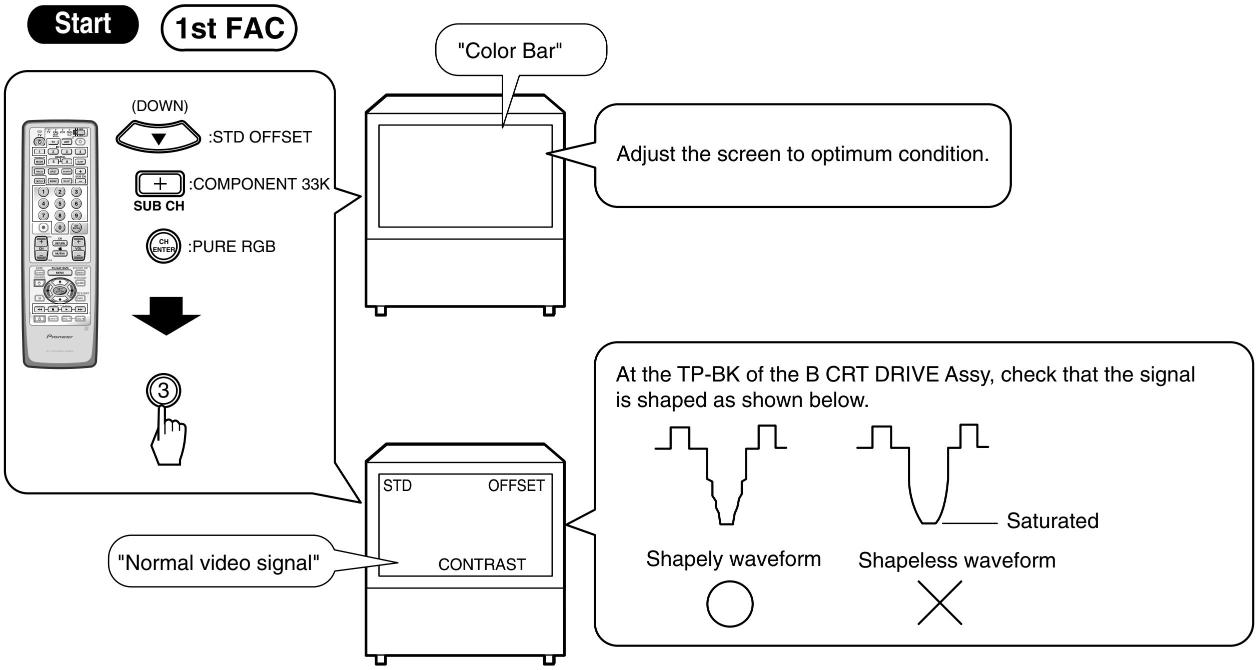
(1) When all the adjustments are completed, or when adjustment should be temporarily interrupted, adjustment data must be written to the EEPROM, in the following manner:
When all the adjustments are completed, or to interrupt adjustment, press the MENU key to quit Convergence Adjustment mode. The display will be unstable for several seconds, but this is because the data are being written to the EEPROM. Wait without doing anything until the display becomes stable, which means writing of data to the EEPROM is finished.
If the power of the TV is turned off (standby) during Convergence Adjustment mode (coarse and fine-adjustments), turn on the TV, enter FACTORY mode, and enter Convergence Adjustment mode by pressing the SET/ENTER key. Then press the MENU key. The data will be written to the EEPROM as described above.

(2) Do NOT turn off the main power during or after convergence adjustment.
If you do so, the adjusted data may be lost. If the data are lost, you must make all the adjustments again.

(3) When the CENTER POINT (test cross) or MULTI-POINT (user convergence) adjustments have been made by a user, and if the unit enters FACTORY Convergence Adjustment mode (with the DOT and SET/ENTER keys), the user's adjustment data will be all cleared and returned to the factory-preset values.
Be sure NOT to enter this Convergence Adjustment mode except when a repair related to convergence or a repair that requires convergence adjustment later, is needed.
If you inadvertently enter Convergence Adjustment mode, readjust the convergence.

⑥ White Balance Adjustment

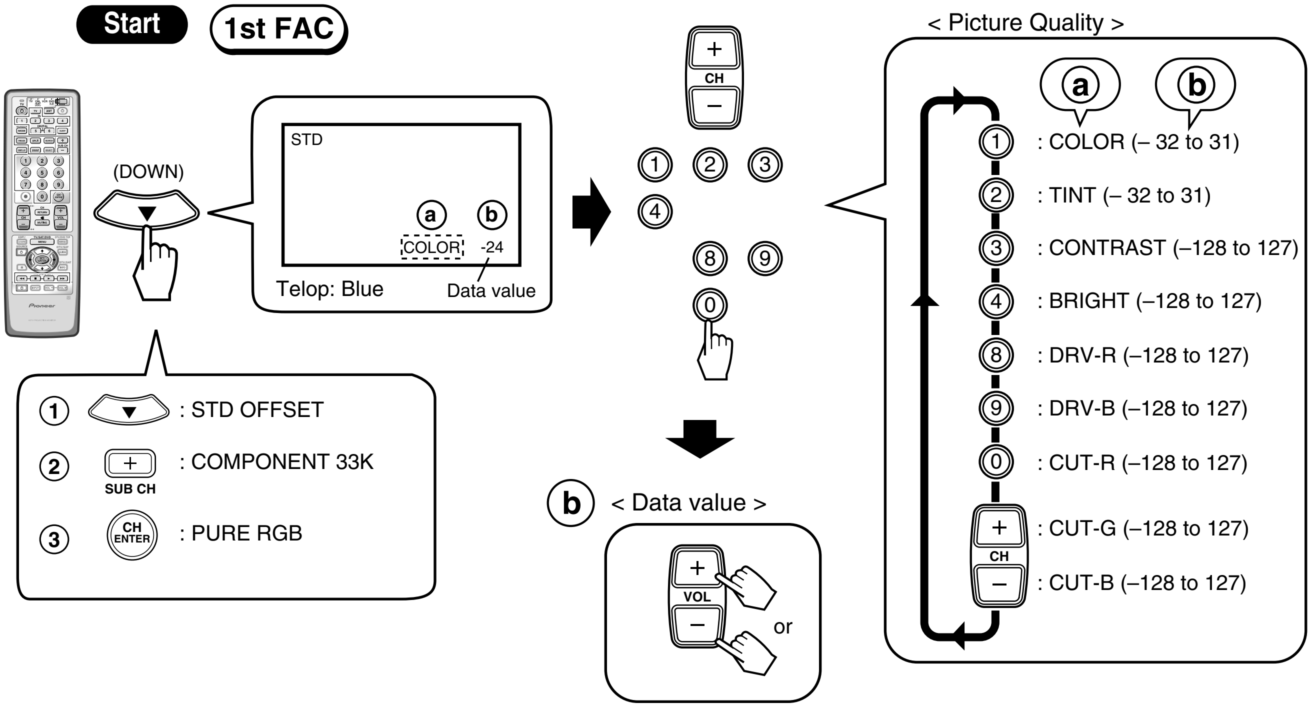
⑥-1 Contrast Adjustment

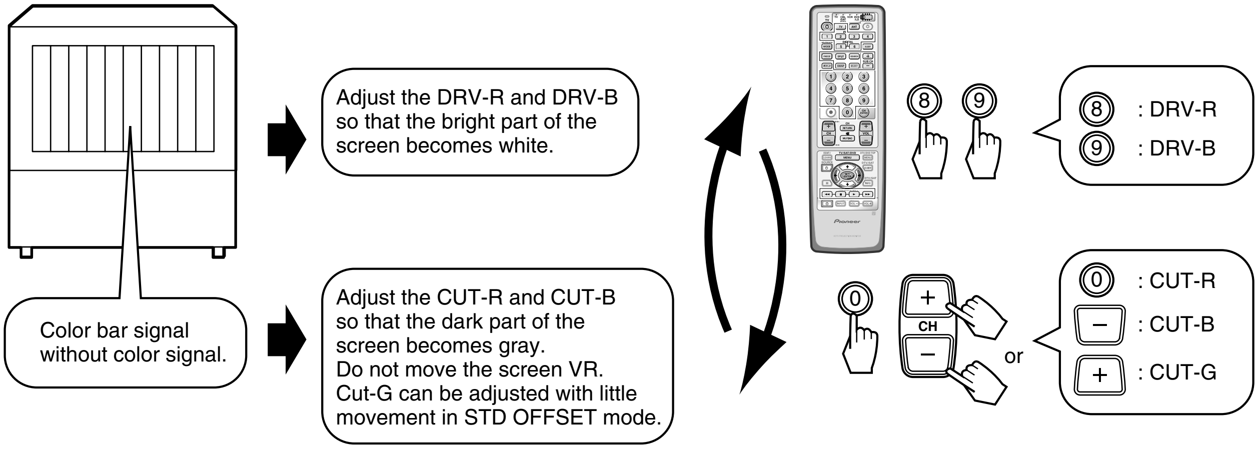

Start
1st FAC
"Color Bar"
(DOWN)
:STD OFFSET
:COMPONENT 33K
SUB CH
:PURE RGB
3
Adjust the screen to optimum condition.
At the TP-BK of the B CRT DRIVE Assy, check that the signal is shaped as shown below.
Saturated
Shapely waveform
Shapeless waveform
○
×
STD
OFFSET
CONTRAST
"Normal video signal"

After the STD adjustment is complete, adjust the 33K COMP and PURE RGB.

❻ -2 White Balance Adjustment

This mode is to set the standard picture quality for a normal picture.


Start
1st FAC
(DOWN)
STD
a
b
COLOR
-24
Telop: Blue
Data value
① : STD OFFSET
② SUB CH : COMPONENT 33K
③ CH ENTER : PURE RGB
CH
1 2 3
4
8 9
0
b < Data value >
VOL
or
< Picture Quality >
a
b
① : COLOR (– 32 to 31)
② : TINT (– 32 to 31)
③ : CONTRAST (–128 to 127)
④ : BRIGHT (–128 to 127)
⑧ : DRV-R (–128 to 127)
⑨ : DRV-B (–128 to 127)
⓪ : CUT-R (–128 to 127)
CH + : CUT-G (–128 to 127)
CH – : CUT-B (–128 to 127)


⑧ : DRV-R
⑨ : DRV-B
⓪ : CUT-R
– : CUT-B
+ : CUT-G
CH
or

Adjust the DRV-R and DRV-B so that the bright part of the screen becomes white.

Adjust the CUT-R and CUT-B so that the dark part of the screen becomes gray.
Do not move the screen VR.
Cut-G can be adjusted with little movement in STD OFFSET mode.

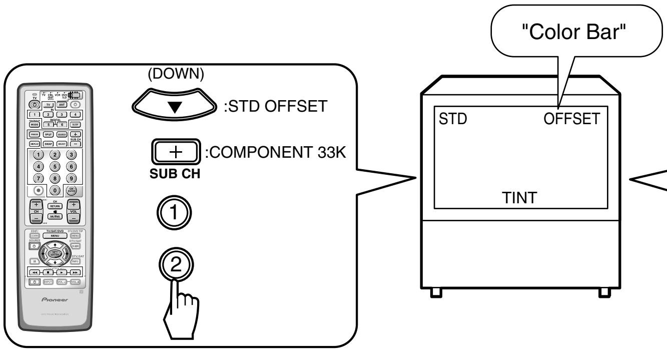
Color bar signal without color signal.

Note :
Refer to the following adjustment procedure.

After the STD adjustment is composite adjustment the 33k Component and PURE RGB.

❻ -3 Color/Tint Adjustment

Start **1st FAC**



Adjust ① COLOR and ② TINT so that the color-bar is set in the proper color saturation and the tint.

Do not adjust the PURE RGB.

■ OFFSET DATA (VIDEO)

ADJ :Adjustment item
The numerical value is shipping a set value in the factory.

DIRECT KEY	OFFSET MODE	KEY	ADJ NAME	Adjustment
DOWN	STD	1	COLOR	ADJ
		2	TINT	ADJ
		3	CONTRAST	ADJ
		4	BLACK LVL	ADJ
		5	SHARPNESS	0
		6	DETAIL	30
		7	SVM	1
		8	R DRV	ADJ
		9	B DRV	ADJ
		0	R CUT	ADJ
		CH+	G CUT	ADJ
		CH–	B CUT	ADJ
	COMP (15kHz)	1	COLOR	0
		2	TINT	0
		3	CONTRAST	0
		4	BLACK LVL	0
		5	SHARPNESS	0
		6	DETAIL	– 10
		7	SVM	0
		8	R DRV	0
		9	B DRV	0
		0	R CUT	0
		CH+	G CUT	0
		CH–	B CUT	0

DIRECT KEY	OFFSET MODE	KEY	ADJ NAME	Adjustment
	COMP (31kHz)	1	COLOR	0
		2	TINT	0
		3	CONTRAST	0
		4	BLACK LVL	0
		5	SHARPNESS	– 20
		6	DETAIL	– 87
		7	SVM	2
		8	R DRV	0
		9	B DRV	0
		0	R CUT	0
		CH+	G CUT	0
		CH–	B CUT	0
Sub CH+, PinP CH+	COMP (33kHz)	1	COLOR	ADJ
		2	TINT	ADJ
		3	CONTRAST	ADJ
		4	BLACK LVL	0
		5	SHARPNESS	6
		7	SVM	– 2
		8	R DRV	ADJ
		9	B DRV	ADJ
		0	R CUT	ADJ
		CH+	G CUT	ADJ
		CH–	B CUT	ADJ

DIRECT KEY	OFFSET MODE	KEY	ADJ NAME	Adjustment	
	COMP (45kHz)	1	COLOR	ADJ	∗
		2	TINT	ADJ	∗
		3	CONTRAST	ADJ	∗
		4	BLACK LVL	0	
		5	SHARPNESS	6	
		7	SVM	– 2	
		8	R DRV	ADJ	∗
		9	B DRV	ADJ	∗
		0	R CUT	ADJ	∗
		CH+	G CUT	ADJ	∗
		CH–	B CUT	ADJ	∗
CH CENTER	PURE RGB	3	CONTRAST	ADJ	
		4	BLACK LVL	0	
		8	R DRV	ADJ	
		9	B DRV	ADJ	
		0	R CUT	ADJ	
		CH+	G CUT	ADJ	
		CH–	B CUT	ADJ	

Note ∗ :
Check that the value is the same as that for COMP (33 kHz). If it is not, enter the same value as that for COMP (33 kHz).

DIRECT KEY

OFFSET MODE

PURE RGB (DVI)

KEY	ADJ NAME	Adjustment	
3	CONTRAST	ADJ	*
4	BLACK LVL	0	
8	R DRV	ADJ	*
9	B DRV	ADJ	*
0	R CUT	ADJ	*
CH+	G CUT	ADJ	*
CH–	B CUT	ADJ	*

TV

KEY	ADJ NAME	Adjustment
1	COLOR	– 5
2	TINT	0
3	CONTRAST	0
4	BLACK LVL	0
5	SHARPNESS	0
6	DETAIL	– 20

RTM

KEY	ADJ NAME	Adjustment
1	COLOR	0
2	TINT	– 2
3	CONTRAST	– 22
4	BLACK LVL	0
5	SHARPNESS	0
6	DETAIL	0
8	R DRV	0
9	B DRV	0
0	R CUT	– 7
CH+	G CUT	– 6
CH–	B CUT	– 5

GAME

KEY	ADJ NAME	Adjustment
1	COLOR	0
2	TINT	0
3	CONTRAST	– 46
4	BLACK LVL	0
5	SHARPNESS	0
6	DETAIL	0
8	R DRV	– 3
9	B DRV	– 11
0	R CUT	– 5
CH+	G CUT	– 6
CH–	B CUT	– 2

MODULE

KEY	ADJ NAME	Adjustment
1	COLOR	0
2	TINT	0
3	CONTRAST	0
4	BLACK LVL	0
5	SHARPNESS	0
6	DETAIL	0
8	R DRV	0
9	B DRV	0
0	R CUT	0
CH+	G CUT	0
CH–	B CUT	0

ADJ :Adjustment item

The numerical value is shipping a set value in the factory.

DIRECT KEY

OFFSET MODE

RGB → YCbCr (31k)

KEY	ADJ NAME	Adjustment
1	COLOR	– 3
2	TINT	– 1
3	CONTRAST	0
4	BLACK LVL	0
5	SHARPNESS	0
6	DETAIL	0
7	SVM	0
8	R DRV	0
9	B DRV	0
0	R CUT	0
CH+	G CUT	0
CH–	B CUT	0

RGB → YCbCr (33k)

KEY	ADJ NAME	Adjustment
1	COLOR	– 5
2	TINT	– 3
3	CONTRAST	0
4	BRIGHT	0
5	SHARPNESS	0
6	DETAIL	0
8	R DRV	0
9	B DRV	0
0	R CUT	0
CH+	G CUT	0
CH–	B CUT	0

Note * :
Check that the value is the same as that for PURE RGB. If it is not, enter the same value as that for PURE RGB.

DIRECT KEY

OFFSET MODE

NEWS COLOR TEMP

KEY	ADJ NAME	Adjustment
3	CONTRAST	0
8	R DRV	– 15
9	B DRV	12
0	R CUT	0
CH+	G CUT	0
CH–	B CUT	– 1

LIVE COLOR TEMP

KEY	ADJ NAME	Adjustment
3	CONTRAST	0
8	R DRV	– 2
9	B DRV	7
0	R CUT	0
CH+	G CUT	1
CH–	B CUT	0

SLEEP

FILM COLOR TEMP

KEY	ADJ NAME	Adjustment
3	CONTRAST	0
8	R DRV	8
9	B DRV	– 14
0	R CUT	– 1
CH+	G CUT	0
CH–	B CUT	1

B&W COLOR TEMP

KEY	ADJ NAME	Adjustment
3	CONTRAST	0
8	R DRV	6
9	B DRV	– 9
0	R CUT	0
CH+	G CUT	0
CH–	B CUT	1

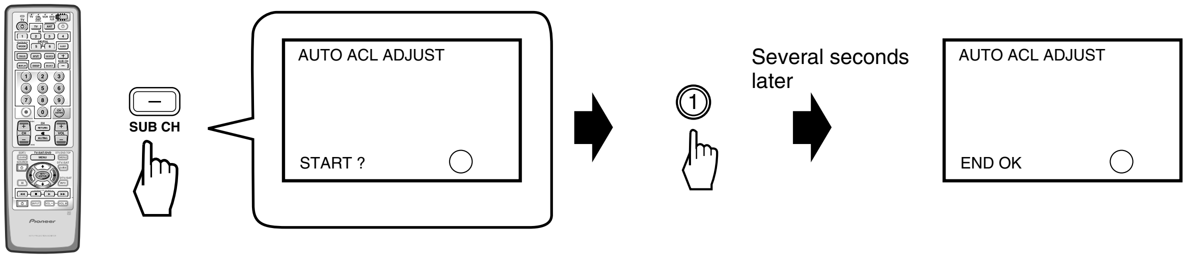
FILM FOR RTM COLOR TEMP

KEY	ADJ NAME	Adjustment
3	CONTRAST	0
8	R DRV	3
9	B DRV	– 10
0	R CUT	0
CH+	G CUT	0
CH–	B CUT	0

❻ -4 ACL Adjustment

Perform this adjustment after the white balance adjustment by all means.

Start **1st FAC**


SUB CH
AUTO ACL ADJUST
START ?
①
Several seconds later
AUTO ACL ADJUST
END OK

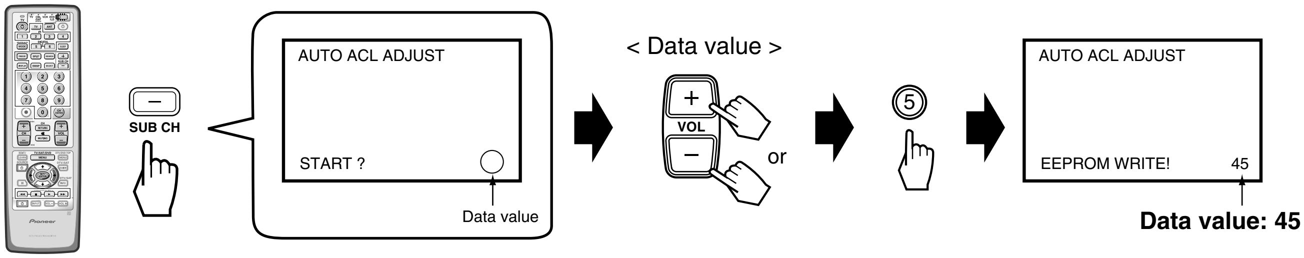
Signal:

- Input a cross hatch of composite signal into an INPUT4 connector.

Conditions:

- When there is the cross hatch of composite signal, be sure to adjust.
- When there is not a cross hatch of composite signal and replaces the EEPROM IC, this adjustment is unnecessary.
- When there is not a cross hatch of composite signal and does not replace the EEPROM IC, input a value of "45". (Method refers to the following.)
- When perform the above adjustment, and display "END NG", input a value of "45". (Method refers to the following.)

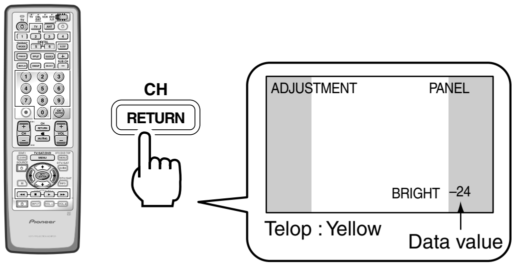
Start **1st FAC**


SUB CH
AUTO ACL ADJUST
START ?
Data value
< Data value >
+
VOL
−
or
⑤
AUTO ACL ADJUST
EEPROM WRITE!
45
Data value: 45

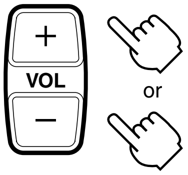
⑦ Panel Adjustment for 480i

Start **1st FAC**

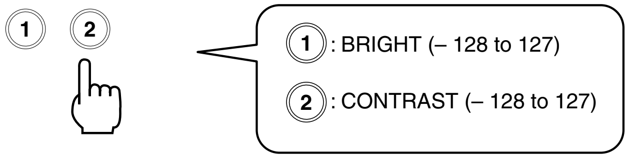
- Mode for adjusting the brightness, contrast of the gray part (panel) of the 4:3 normal screen.


CH
RETURN
ADJUSTMENT
PANEL
BRIGHT –24
Telop : Yellow
Data value
Pioneer

<Data value section>



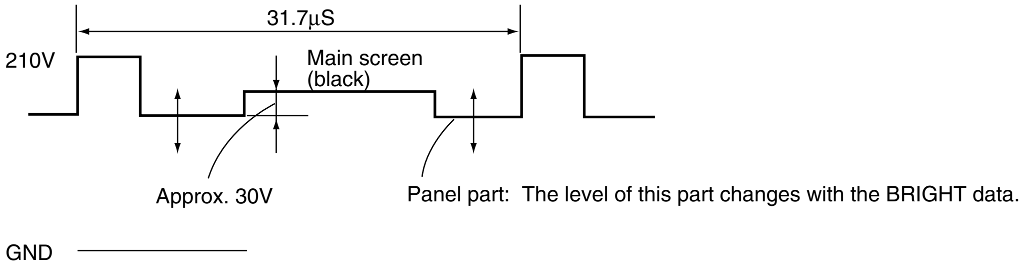
<Adjustment item section>


1
2
1 : BRIGHT (– 128 to 127)
2 : CONTRAST (– 128 to 127)

Procedures

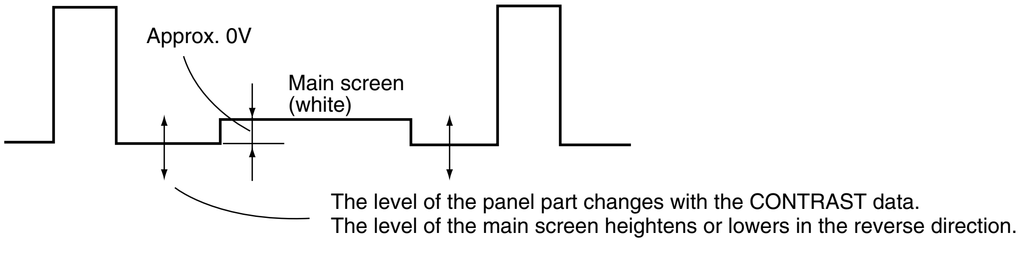
① Send the black-burst signal to the INPUT 1 connector.
Enter Adjustment mode by following the procedures described above.

② With BRIGHT, adjust the gray part (panel) of the screen.
By observing TP5151 of the GREEN CRT DRIVE assembly with the oscilloscope, , adjust the brightness level which is low by 30V from Black level of the main screen.


31.7µS
210V
Main screen
(black)
Approx. 30V
Panel part: The level of this part changes with the BRIGHT data.
GND

③ Switch the input signal to a 100%-white signal.
Adjust the panel part and the main screen with CONTRAST.
Observe the same site as described in Step ② above, and adjust the amplitude of the luminosity.

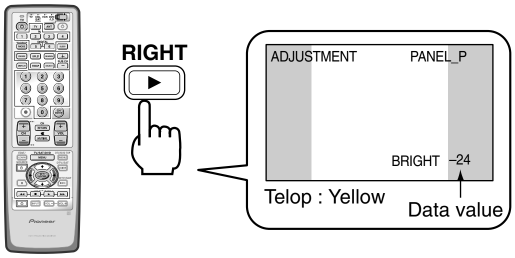
Adjust so that the level of the luminosity of the panel and that of the main screen become the same.


Approx. 0V
Main screen
(white)
The level of the panel part changes with the CONTRAST data.
The level of the main screen heightens or lowers in the reverse direction.

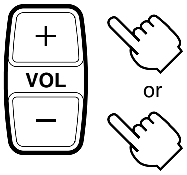
❽ Panel Adjustment for 480P

Start **1st FAC**

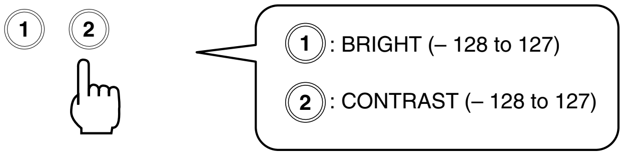
- Mode for adjusting the brightness, contrast of the gray part (panel) of the 4:3 normal screen of 480P signal.


RIGHT
▶
ADJUSTMENT
PANEL_P
BRIGHT –24
Telop : Yellow
Data value

<Data value section>



<Adjustment item section>



① : BRIGHT (– 128 to 127)

② : CONTRAST (– 128 to 127)

Note :
- The adjustment procedures are the same as those described in " ❼ Panel Adjustment for 480i " except for the following:
- Send the black burst of the 480P signal to the INPUT 1 connector.
- Send a 100%-white 480P signal to the INPUT 1 connector.
- When 480P signal is not obtained and adjustment does not complete, input a value the same as BRIGHT and the CONTRAST data value that adjusted with step ❼.

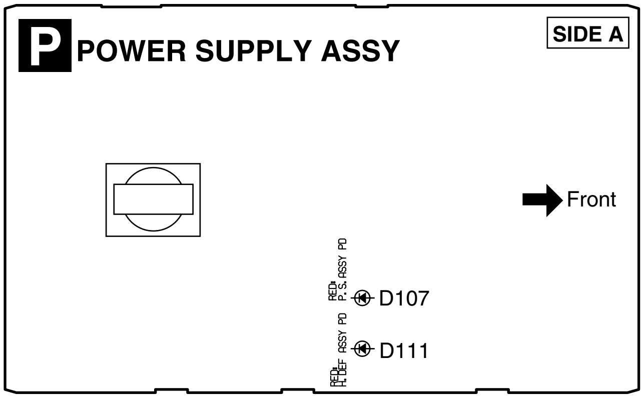
7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DIAGNOSIS METHOD

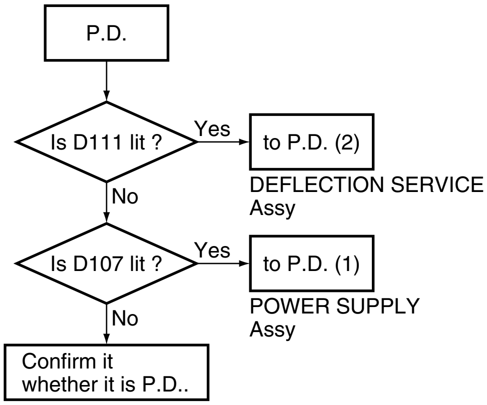
Various protection circuits are provided for this unit. When these protection circuits are activated, the power of the unit is shut down (P.D.: Power Down).
The defective parts can be easily diagnosed by observing the LEDs inside the POWER SUPPLY Assy.

1. D107 in the AWV1960 (For POWER SUPPLY Assy)
2. D111 in the AWV1960 (For DEFLECTION SERVICE Assy)



LED points

■How to Diagnose a Failure



Note: There is a case that DEFLECTION SERVICE Assy P.D. works when there is a damage with the POWER SUPPLY Assy.

Example)
If there is not 6V, V DRV+, V DRV- does not come out. And P.D. hangs with the DEFLECTION SERVICE Assy more first than the POWER SUPPLY Assy.

1. P.D. (1)

Failure in the POWER SUPPLY Assy.
There are two main possibilities:
1. Blown fuse(s) in secondary
2. Abnormality in AUDIO OUTPUT

Status	Causes	Check Items	Probable Defective Parts
D320 ANODE Hi	Blown fuse (s)	The voltage (approx. 14V) at D307 is not supplied.	VIDEO UCOM SERVICE Assy, DVI SERVICE Assy
		The voltage (29 to 38V) at R306 is not supplied.	IC1101 (POWER SUPPLY Assy)
		The voltage (approx. 6.5V) at "6V" JP is not supplied.	VIDEO UCOM SERVICE Assy, SIGNAL Assy, DVI SERVICE Assy
		The voltage (approx. 4.8V) at "4V" JP is not supplied.	
D1106 ANODE Hi	Abnormality in AUDIO OUTPUT	The SP line (CN1101) is disconnected.	Connect the SP line.
		The voltage at the negative electrode of the C1114 and C1117 is 5.5V or more.	C1114, C1117 (POWER SUPPLY Assy)

Note: The anode of the diode is high only for a short time after the power is turned on until the protection circuits are activated (P.D.)
The LEDs are lit by the HOLD circuit.

In a case when the power cannot be on with no LED lit, check the following:
1. Check if the FU201 fuse in the POWER SUPPLY Assy is blown.
2. Disconnect and check connector P1 (CN407) to see whether STB 5 V is supplied.
   If STB 5 V is supplied, replace the VIDEO UCOM SERVICE Assy. If STB 5 V is NOT supplied, replace the POWER SUPPLY Assy.
3. Disconnect and check connector P2 (CN404) to see whether AC CLK is supplied.
   If AC CLK is supplied, replace the VIDEO UCOM SERVICE Assy. If AC CLK is NOT supplied, replace the POWER SUPPLY Assy.

When overload detection mechanism is activated, the 10V line is short-circuited. If the power switch is set to ON again in this condition, there may be a case where the power cannot be turned on, with just a whining sound, and where only the D107 LED in the POWER SUPPLY Assy is lit. If this happens, first replace only the VIDEO UCOM SERVICE Assy, disconnect the AC cord from the AC outlet or turn the main power switch OFF, and wait for five minutes. Then, turn on the power again. If the condition is ameliorated, only the VIDEO UCOM SERVICE Assy is defective. If the same symptom occurs, replace the POWER SUPPLY Assy. In the latter case, the VIDEO UCOM SERVICE Assy may not be defective.
SIGNAL and TUNER Assemblies also perform the same thing as VIDEO UCOM SERVICE Assy, and exchange the unit that verified the unit and has broken.

2. P.D. (2)

Failure in the DEFLECTION SERVICE Assy.
There are six main possibilities:

1. Blown fuse (s) in secondary
2. Abnormality in the regulator of heater
3. Overload detection
4. H. deflection stopping detection
5. X-ray protection
6. V. deflection stopping

Status	Causes	Check Items	Probable Defective Parts
D1006 ANODE Hi	Blown fuse (s)	The voltage (approx. 23V) at R831 is not supplied.	IC401, IC402 (POWER SUPPLY Assy) IC802 (DEFLECTION SERVICE Assy)
		The voltage (approx. –23V) at R833 is not supplied.	
		The voltage (approx. 8V) at D1010 is not supplied.	IC1001, D1021
D1014 ANODE Hi	Abnormally in the regulator for the heater	The voltage of HT + (approx. 6.4V) at C1019 + side is too high (over 7.5V)	D1012, IC1001
D503 ANODE Hi	Overload detection	It checks whether the parts of the account of the right have broken.	Q603 (short-circuited between D and S) Q511 (short-circuited between C and E) IC5101, IC5151, IC5201 (CRT DRIVE Assy) Short D605 (short-circuited)
D512 ANODE Hi	Stopping H. deflection	Is the connector of the deflection yoke plugged in ?	Plug in the connector.
		No HDRV signal at R557	IC4608 (VIDEO UCOM SERVICE Assy)
		No DH. BLK signal at D506 (Cathode)	Q508, Q511
D613 ANODE Hi	X-ray protection	No change in the ABL voltage (no DC change) at pin 10 of the CN1907 when a 100%-white signal is repeatedly connected and disconnected	D4614 (short-circuited) of the VIDEO UCOM SERVICE Assy
			T601 (FBT) rare short
D806 ANODE Hi	Stopping V. deflection	Abnormality in VDRV +, VDRV – waveform that is output from pin 2 and 6 of the CN1907 in the VIDEO UCOM SERVICE Assy	IC4608 (VIDEO UCOM SERVICE Assy)
		No waveform is output from pin 4 of the CN505	IC802

Note: The anode of the diode is high only for a short time after the power is turned on until the protection circuits are activated (P.D.)
The LEDs are lit by the HOLD circuit.

Note that the power may be shut down when the voltages AC120V, 5V6 and STB5V from the POWER SUPPLY Assy are not supplied because the DEFLECTION SERVICE Assy is powered by the POWER SUPPLY Assy.

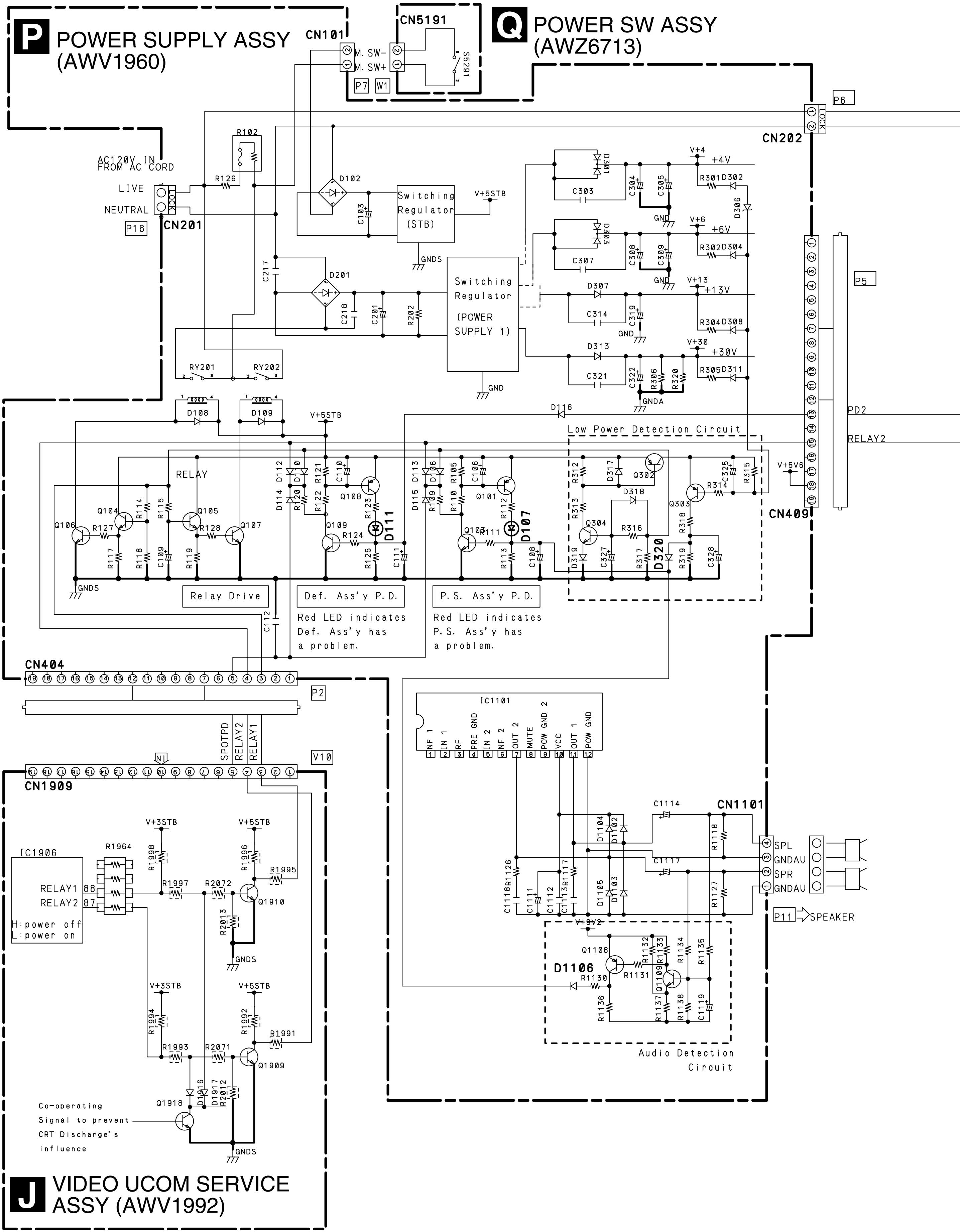
When overload detection mechanism is activated, the 120 V line is short-circuited. If the power switch is set to ON again in this condition, there may be a case where the power cannot be turned on, with just a whining sound, and where only the D111 LED in the POWER SUPPLY Assy is lit. If this happens, disconnect the AC cord from the AC outlet or turn the main power switch OFF, and wait for five minutes.

Be sure to check the fuses in the DEFLECTION SERVICE Assy because one or more may be blown as a result of short-circuiting of the load circuit of the DEFLECTION SERVICE Assy.

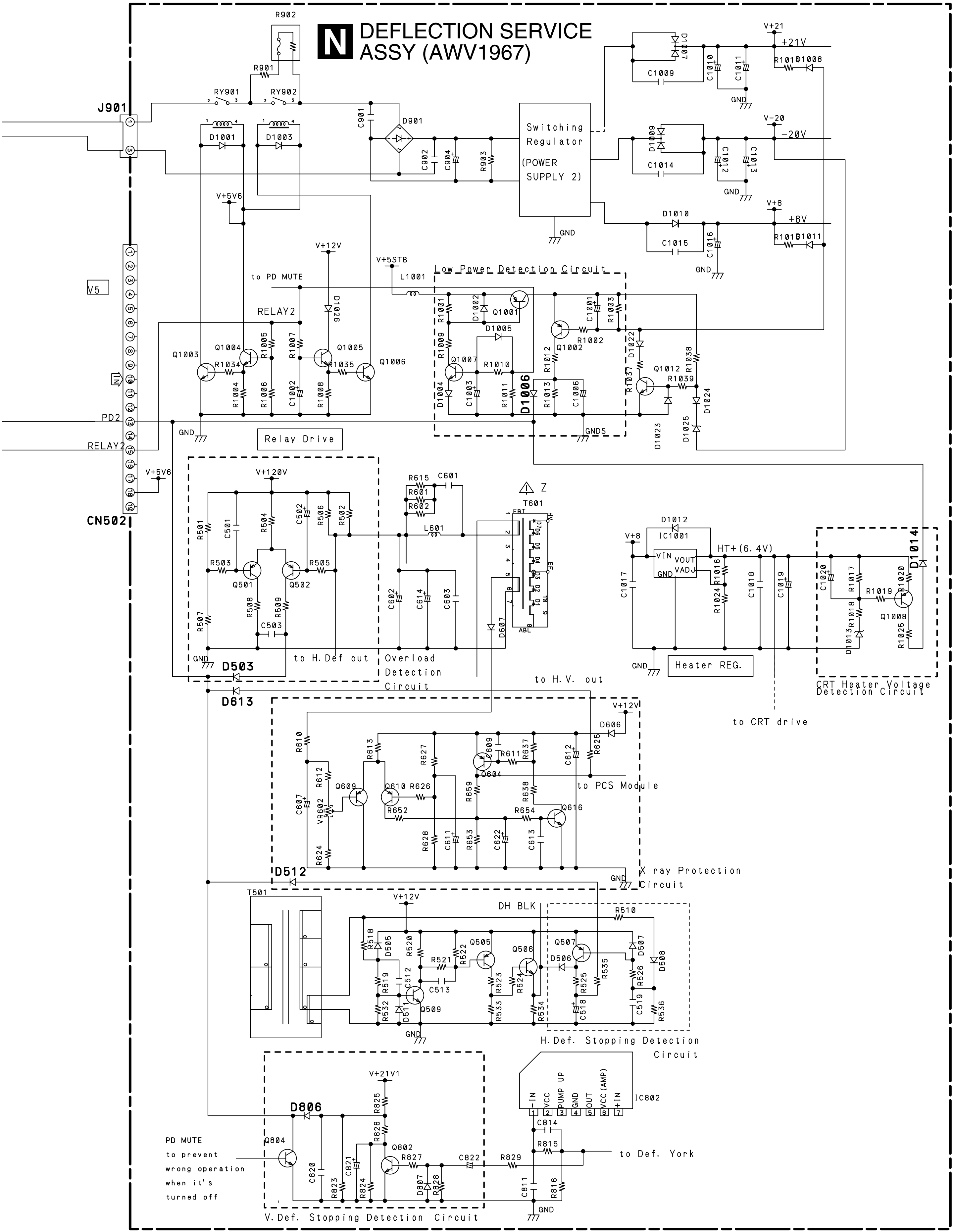
If the FU1001 and FU1002 fuses are blown, see the following table:

Causes	Check Items	Probable Defective Parts
Too high loading on the CONVER. AMP	Check that waveform signals are output from pin 3 and pin 1 of the CN401, CN402 and CN403, and that the DC element is not added to the signals.	IC401, IC402 (POWER SUPPLY Assy)
CONVER. MUTING not activated	Check that the electric potential of pin 3 and pin 4 of IC401 and IC402 are at the same level when the power is turned on.	Q404, Q402 (POWER SUPPLY Assy)

3. Block Diagram of the Protection Circuit


P
POWER SUPPLY ASSY
(AWV1960)
Q
POWER SW ASSY
(AWZ6713)
CN101
M. SW-
M. SW+
CN5191
S5291
P7
W1
P6
CN202
LOCK
AC120V IN
FROM AC CORD
LIVE
NEUTRAL
CN201
P16
R102
R126
D102
C103
Switching
Regulator
(STB)
V+5STB
GNDS
C217
D201
C218
C201
R202
Switching
Regulator
(POWER
SUPPLY 1)
GND
RY201
RY202
D301
C303
C304
C305
V+4
+4V
R301
D302
D306
D303
C307
C308
C309
V+6
+6V
R302
D304
D307
C314
C319
V+13
+13V
R304
D308
D313
C321
C322
R306
R320
V+30
+30V
R305
D311
GNDA
D116
CN409
P5
PD2
RELAY2
D108
D109
V+5STB
Low Power Detection Circuit
RELAY
Q104
Q105
Q106
Q107
R127
R128
R114
R115
R117
R118
C109
R119
D112
D110
D114
R120
R121
R122
C110
Q108
R123
D111
Q109
R124
R125
C111
D113
D106
D115
R109
R105
R110
C106
Q101
R112
D107
Q103
R111
R113
C108
R312
D317
Q302
R313
D318
Q304
R316
D319
C327
R317
D320
R318
R319
C328
Q303
R314
C325
R315
V+5V6
GNDS
Relay Drive
Def. Ass'y P.D.
P.S. Ass'y P.D.
Red LED indicates
Def. Ass'y has
a problem.
Red LED indicates
P.S. Ass'y has
a problem.
C112
CN404
P2
SPOTPD
RELAY2
RELAY1
N1
V10
CN1909
IC1101
NF 1
IN 1
RF
PRE GND
IN 2
NF 2
OUT 2
MUTE
POW GND 2
VCC
OUT 1
POW GND
C1114
CN1101
D1104
D1102
R1118
C1117
R1126
C1118
C1111
C1112
C1113
R1117
D1105
D1103
R1127
SPL
GNDAU
SPR
GNDAU
P11
SPEAKER
V+9V2
Q1108
R1132
R1133
R1134
R1135
D1106
R1130
R1131
Q1109
R1136
R1137
R1138
C1119
Audio Detection
Circuit
IC1906
R1964
RELAY1 88
RELAY2 87
H:power off
L:power on
V+3STB
V+5STB
R1998
R1997
R2072
R1996
R1995
Q1910
R2013
GNDS
R1994
R1993
R2071
R1992
R1991
Q1909
D1916
D1917
R2012
Q1918
Co-operating
Signal to prevent
CRT Discharge's
influence
J
VIDEO UCOM SERVICE
ASSY (AWV1992)

N DEFLECTION SERVICE ASSY (AWV1967)


R902
R901
RY901
RY902
J901
C901
D901
D1001
D1003
C902
C904
R903
Switching Regulator (POWER SUPPLY 2)
GND
V+5V6
D1007
C1009
C1010
C1011
V+21
+21V
R1015
D1008
GND
V-20
-20V
D1009
C1014
C1012
C1013
V+8
+8V
D1010
C1015
C1016
R1016
D1011
V+12V
V+5STB
to PD MUTE
L1001
Low Power Detection Circuit
RELAY2
D1026
R1001
D1002
Q1001
D1005
R1009
Q1007
R1010
D1004
C1003
R1011
D1006
R1012
Q1002
R1002
C1001
R1003
R1013
C1006
GNDS
D1022
Q1012
R1037
R1038
R1039
D1024
D1023
D1025
Q1003
Q1004
R1034
R1005
R1004
R1006
R1007
C1002
Q1005
R1035
R1008
Q1006
V5
IN
PD2
RELAY2
CN502
GND
Relay Drive
V+5V6
V+120V
R501
C501
R504
C502
R506
R502
R503
Q501
Q502
R505
R508
R509
C503
R507
GND
D503
to H.Def out
R615
C601
R601
R602
L601
C602
C614
C603
Overload Detection Circuit
Z
T601
FBT
D607
ABL
to H.V. out
D1012
IC1001
V+8
VIN
VOUT
VADJ
GND
HT+(6.4V)
C1017
R1016
R1024
C1018
C1019
C1020
R1017
R1019
R1020
D1014
R1018
Q1008
D1013
R1025
GND
Heater REG.
CRT Heater Voltage Detection Circuit
to CRT drive
D613
V+12V
D606
R610
R613
R627
Q609
R611
R637
C612
R625
Q604
to PCS Module
R612
Q609
Q610
R626
R659
R638
C607
VR602
R652
R654
Q616
R624
R628
C611
R653
C622
C613
D512
GND
X ray Protection Circuit
T501
V+12V
DH BLK
R510
R518
D505
R520
R522
Q505
Q506
Q507
D507
D508
R521
C512
C513
D506
R519
R523
R524
R525
R535
R526
R532
D511
Q509
R533
R534
C518
C519
R536
GND
H.Def. Stopping Detection Circuit
V+21V1
D806
R825
R826
Q802
Q804
R827
C822
R829
C820
R823
C821
R824
D807
R828
PD MUTE to prevent wrong operation when it's turned off
V.Def. Stopping Detection Circuit
IC802
-IN
VCC
PUMP UP
GND
OUT
VCC(AMP)
+IN
C814
R815
C811
R816
GND
to Def. York

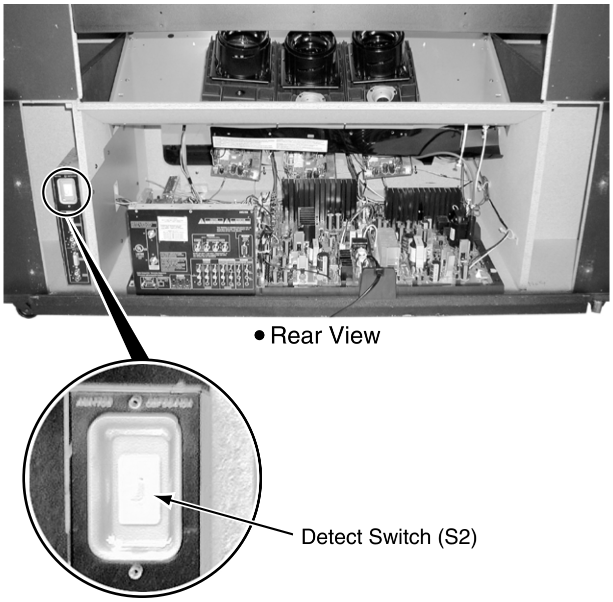
7.1.2 DISASSEMBLY

About detect switch

This unit adopt the "Rear Cover opened ! detection" system.
Please work in service as follows by all means.

● Outline and caution

Therefore adopt contents protection by HDCP for copyright protection.
Moreover establish the detect switch which is never turned on the power when "a Rear Cover of projection monitor was opened carelessly".
Detect switch does not detect at the power supply OFF and the remote control unit wait state. Please stick this detect switch with tape before turning on the power in inside diagnoses of the plasma display. And please remove it not to forget the tape which stuck after the repair.


Detect Switch (S2)

● Rear View

● When detect switch has worked by any chance

Main unit key
(Remote control unit key is impossible.)

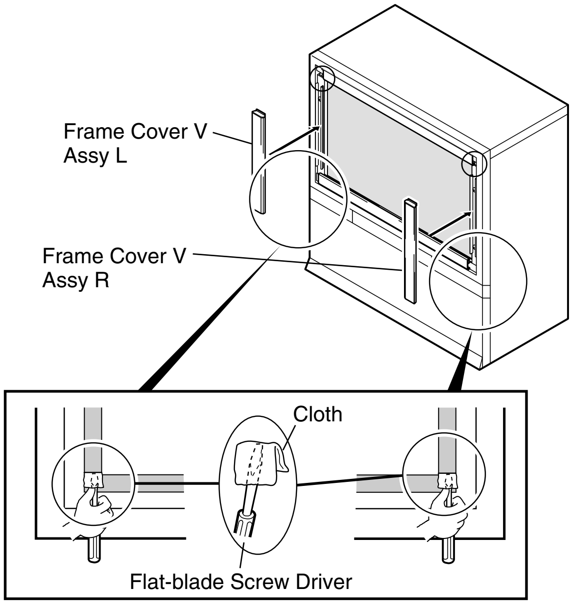
RETURN — Standby LED starts flashing when presses a key more than five seconds.
↓
POWER
↓
RETURN — Press it within five seconds.
↓
INPUT
↓
Start with the service factory mode.

Note:
You can remove the Screen without removing the Frame Cover and AR Panel.

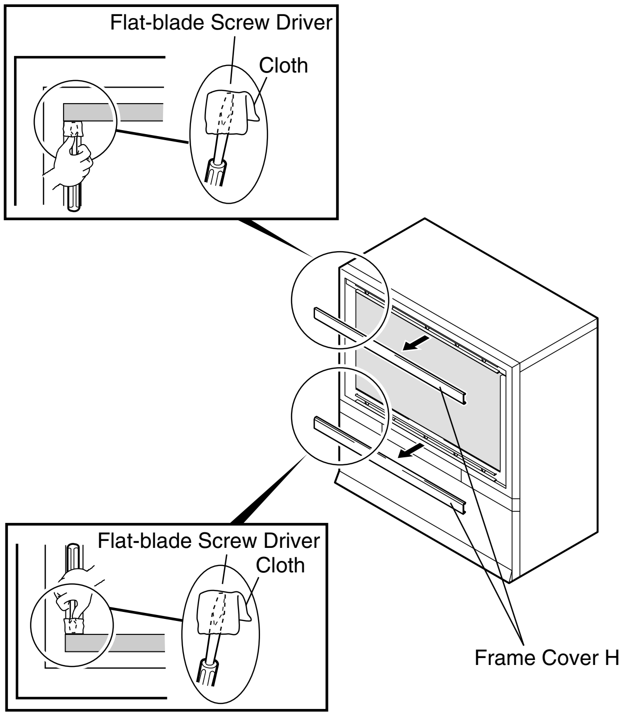
1 Frame Cover and AR Panel

Disassembly : ① → ② → ③ → ④ → ⑤ → ⑥ → ⑦ → ⑧ → ⑨
Assembly : ⑨ → ⑧ → ⑦ → ⑥ → ⑤ → ④ → ③ → ② → ①

① Remove the Frame Cover V Assy L and R

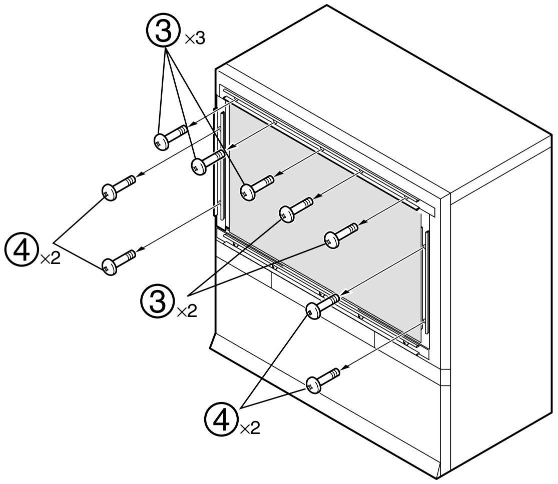

Frame Cover V Assy L
Frame Cover V Assy R
Cloth
Flat-blade Screw Driver

② Remove the Frame Cover H


Flat-blade Screw Driver
Cloth
Flat-blade Screw Driver
Cloth
Frame Cover H

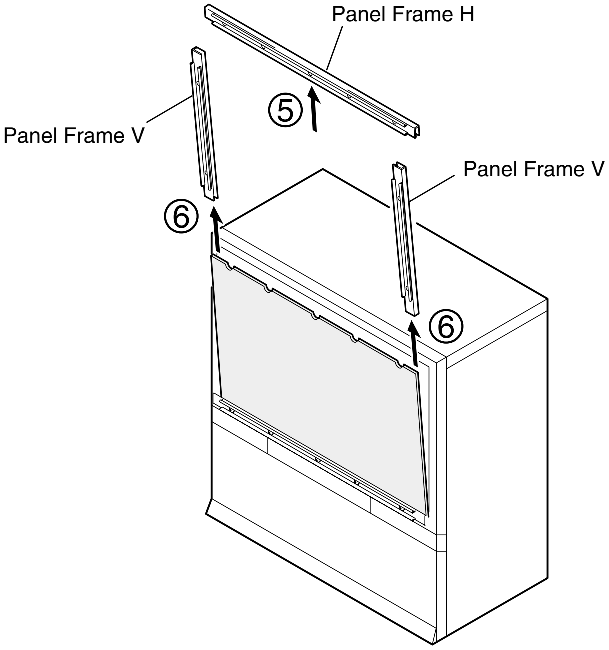
③ Remove five screws

④ Remove four screws



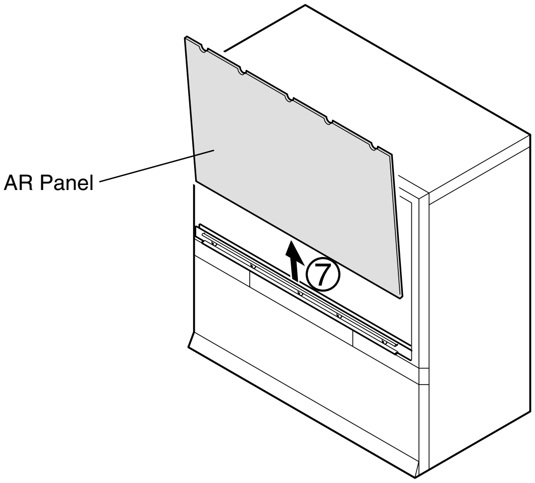
⑤ Remove the Panel Frame H

⑥ Remove the Panel Frame V


Panel Frame H
Panel Frame V
⑤
Panel Frame V
⑥
⑥

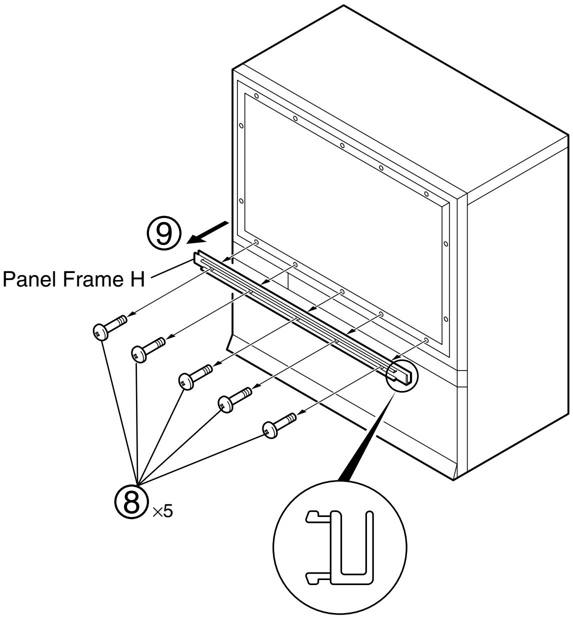
⑦ Remove the AR Panel

Caution :
As oil from the hands is easily attached to, but difficult to remove from the AR panel, be sure to wear gloves when you handle the panel.
If stains are attached to the panel, wipe them off with a piece of clean cloth moistened with water.
If stains persist, use undiluted alcohol.



⑧ Remove five screws

⑨ Remove the Panel Frame H

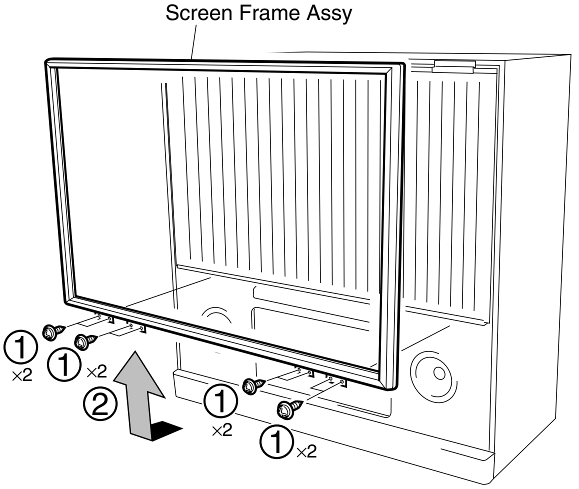

⑨
Panel Frame H
⑧×5

2 Screen

Note:
You can remove the Screen without removing the Frame Cover and AR Panel.

① Remove eight screws

② Remove the Screen Frame Assy


Screen Frame Assy
① ×2
① ×2
②
① ×2
① ×2

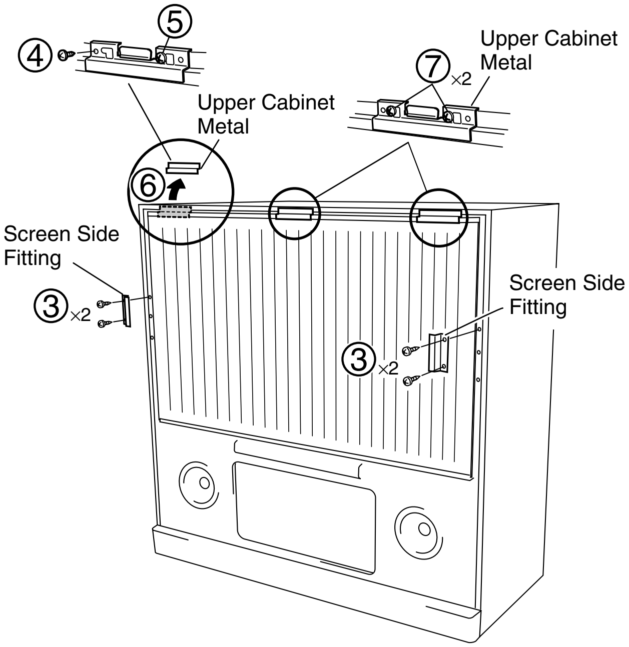
③ Remove four screws to remove the Screen Side Fitting

④ Remove a screw

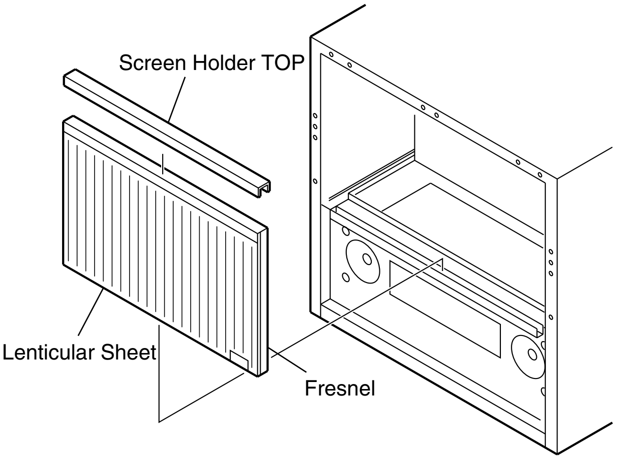
⑤ Remove a screw (Only unscrew in the lens adjustment.)

⑥ Remove the Upper Cabinet Metal

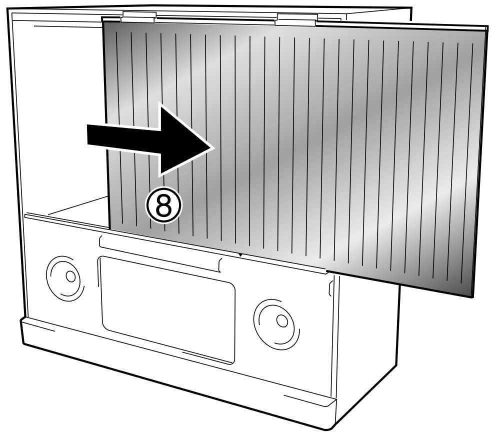
⑦ Remove four screws to remove the Upper Cabinet Metal
(Only unscrew in the lens adjustment.)


⑤
④
Upper Cabinet Metal
⑦ ×2
Upper Cabinet Metal
⑥
Screen Side Fitting
③ ×2
Screen Side Fitting
③ ×2

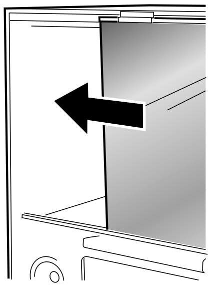
⑧ Remove the Screen


Screen Holder TOP
Lenticular Sheet
Fresnel

⑧ Slide the screen to right
(when perform the lens adjustment)



Notes:
To assemble the screen, perform the above procedures in reverse order.
After assembling it, put positions together so that right and left become equal.



Disconnect the Anode Cable

WARNING:
Before disconnect the anode cable, turn off the power,
unplug the AC plug and let the unit discharge for more than 1 minut.

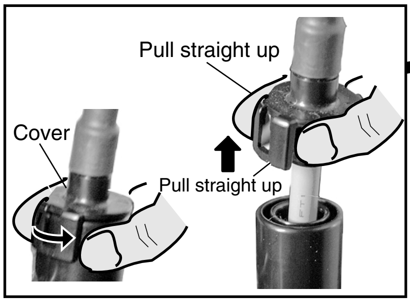
MEASURING METHOD

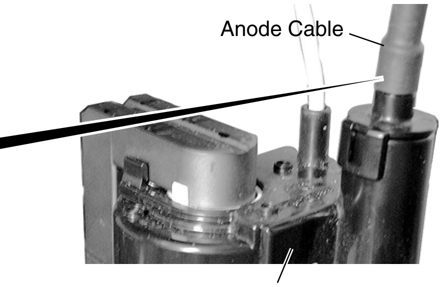
Disconnect the FBT anode cable as shown below.
Measure at the point where the cable enters the FBT.

Caution : Take extra precaution when measuring the voltage. High voltage are also present in surrounding circuit boards. (CRT assy, POWER SUPPLY assy)

SERVICEMAN WARNING

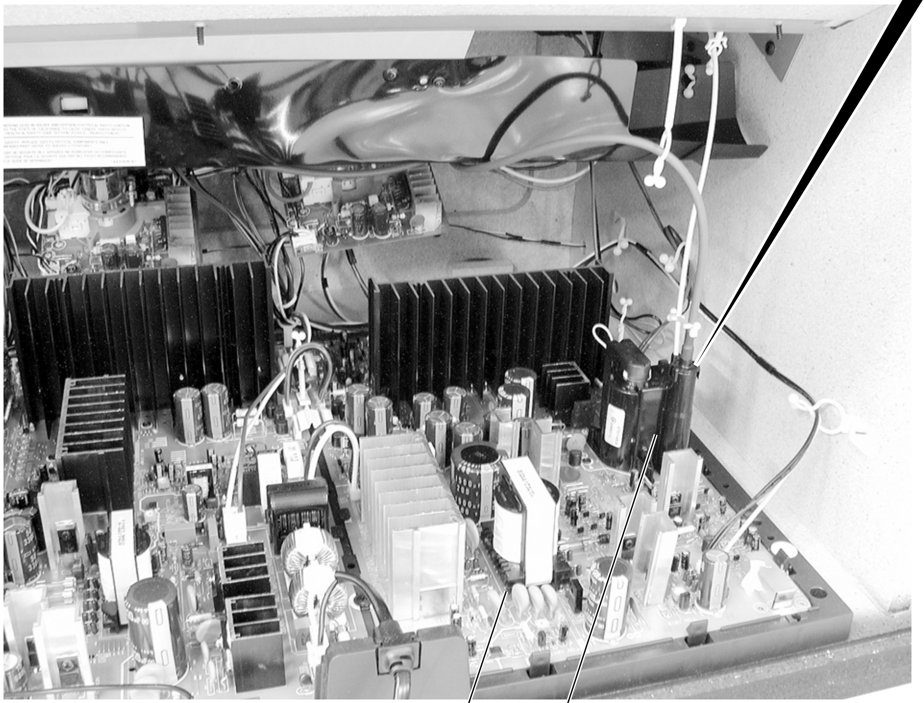
Before removing the anode cable, turn off the power, unplug the AC plug and let the unit discharge for more than 1 minut.


Pull straight up
Cover
Pull straight up


Anode Cable
FBT

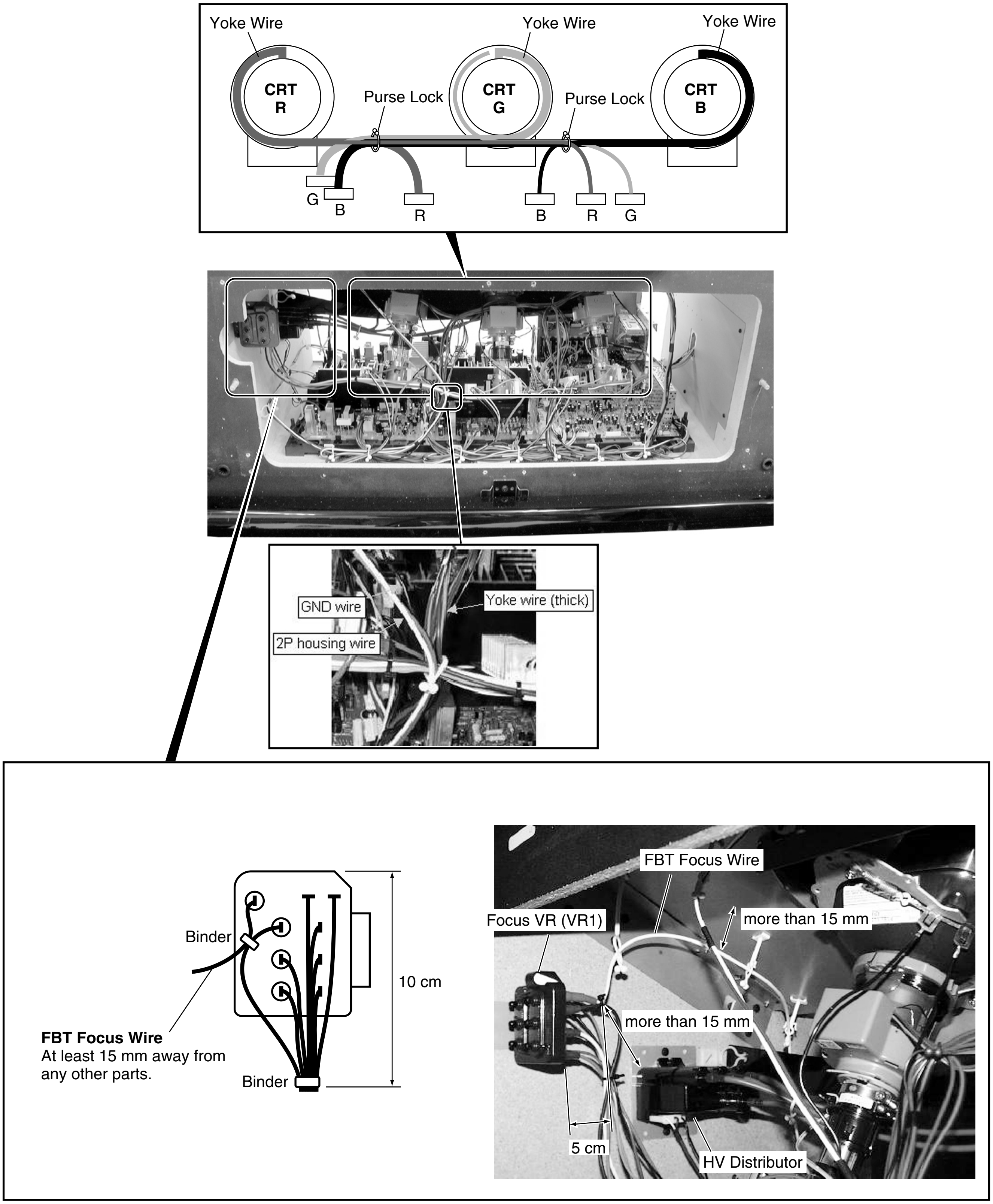
Note :
When reconnecting the cable, proceed in the reverse order. After reconnecting, tug on the cable to check that it is secure.

● Rear View


FBT
DEFLECTION SERVICE Assy

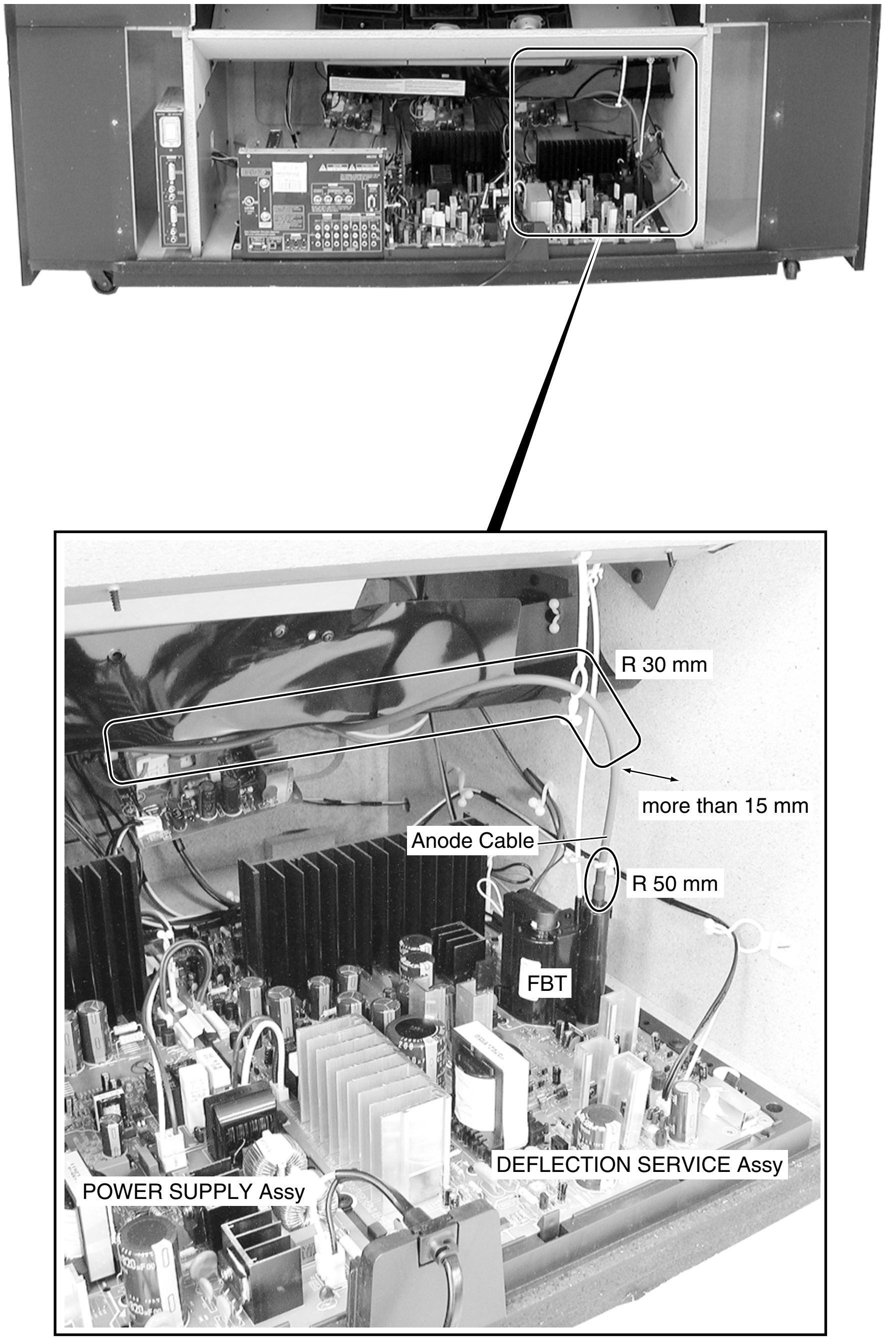
7.1.3 WIRING DIAGRAM

Front Section


Yoke Wire
Yoke Wire
Yoke Wire
CRT R
Purse Lock
CRT G
Purse Lock
CRT B
G
B
R
B
R
G
GND wire
Yoke wire (thick)
2P housing wire
Binder
10 cm
Binder
FBT Focus Wire
Focus VR (VR1)
more than 15 mm
more than 15 mm
5 cm
HV Distributor

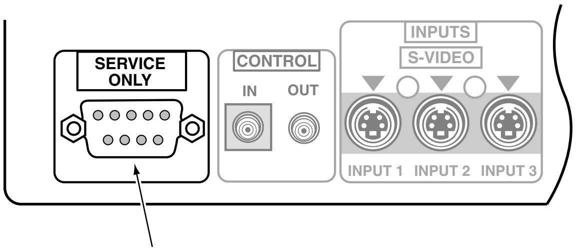
FBT Focus Wire
At least 15 mm away from
any other parts.

Rear Section


R 30 mm
more than 15 mm
Anode Cable
R 50 mm
FBT
DEFLECTION SERVICE Assy
POWER SUPPLY Assy

7.1.4 ABOUT THE SERVICE (RS-232C) PORT

Rear Panel


SERVICE ONLY
CONTROL
IN
OUT
INPUTS
S-VIDEO
INPUT 1
INPUT 2
INPUT 3

- Specification of this port is not decided at present.
  Please refer to the service information issued separately after specification was decided.

7.2 IC

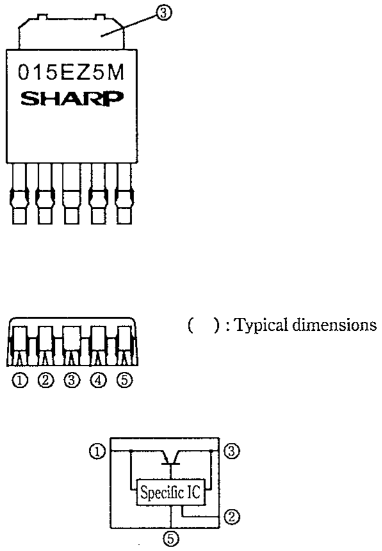
- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.
- **List of IC**

PQ018EZ01ZP, PQ025EZ01ZP, PQ033EZ01ZP, TC7SB66FU, TC7W53FU, PQ30RV21, M62399FP, TC7W53FU, PQ05DZ11, 24LC02B(I)SN 24LC64(I)P, STK392-180, M52055FP, UPD64083GF, SII907BCQ52, TA1340F, BH3865S, CXA2153S, CXA2171Q, CXA2180Q, PD5815A8

■ PQ018EZ01ZP (VIDEO UCOM SERVICE ASSY: IC2802)
PQ025EZ01ZP (SIGNAL ASSY: IC2504)
PQ033EZ01ZP (VIDEO UCOM SERVICE ASSY: IC1902, IC2801, IC2809)
(SIGNAL ASSY: IC2505)

Low Power-Loss Voltage Regulators

● Pin Assignment (Top view)



① DC input (V_{IN})
② ON/OFF control terminal (V_C)
③ DC output (V_O)
④ NC
⑤ GND

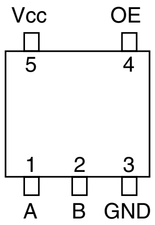
● Model Line-up

Output current (I)	Output voltage (V)		
	1.8V	2.5V	3.3V
1A	PQ018EZ01ZP	PQ025EZ01ZP	PQ033EZ01ZP

■ TC7SB66FU (VIDEO UCOM SERVICE ASSY : IC4612, IC4613, IC4614)

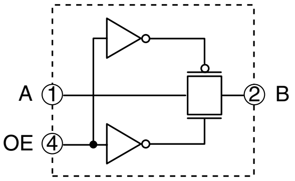
Single Bus Switch (analog)

● Pin Assignment (Top view)



● Block Diagram

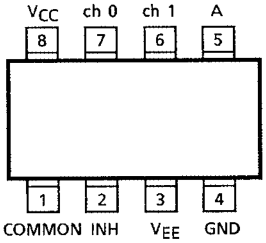
Inputs	Function
OE	
H	A port = B port
L	Disconnect



■ TC7W53FU (VIDEO UCOM SERVICE ASSY : IC4603)

Logic IC

● Pin Assignment (Top view)

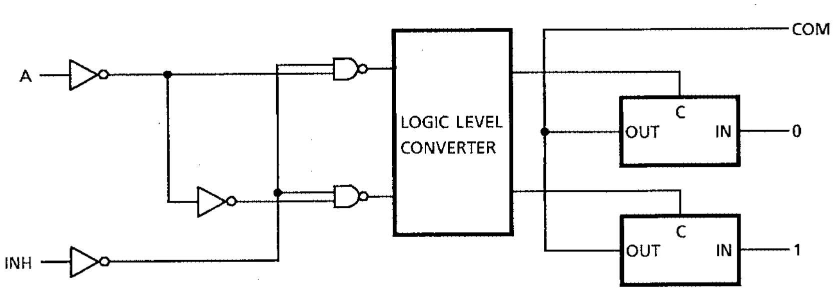


V_{CC}
ch 0
ch 1
A
8
7
6
5
1
2
3
4
COMMON
INH
V_{EE}
GND

● Block Diagram

CONTROL INPUT		ON CHANNEL
INH	A	
L	L	ch 0
L	H	ch 1
H	×	NONE

× : Don't care

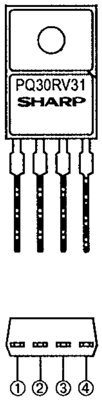


A
INH
LOGIC LEVEL CONVERTER
COM
C
OUT
IN
0
C
OUT
IN
1

■ PQ30RV21 (DEFLECTION SERVICE ASSY : IC1001)

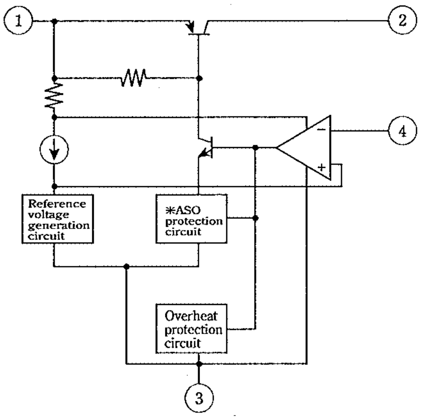
Low Power-Loss Voltage Regulators

● Pin Assignment (Top view)



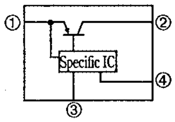
PQ30RV31
SHARP
①
②
③
④

● Block Diagram



①
②
④
③
Reference voltage generation circuit
*ASO protection circuit
Overheat protection circuit
−
+

Internal connection diagram



①
②
④
③
Specific IC

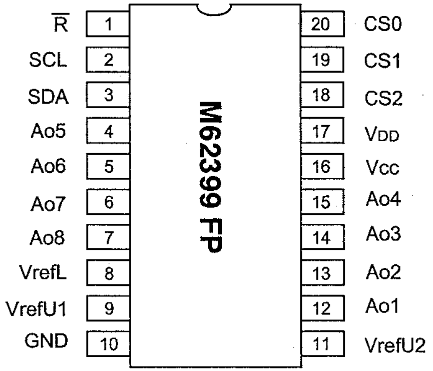
① DC input(V_{IN})
② DC output(V_O)
③ GND
④ Output voltage minute adjustment terminal(V_{ADJ})

Output current (I)	Output voltage (V) Reference voltage precision: ± 2%
2A	PQ30RV21

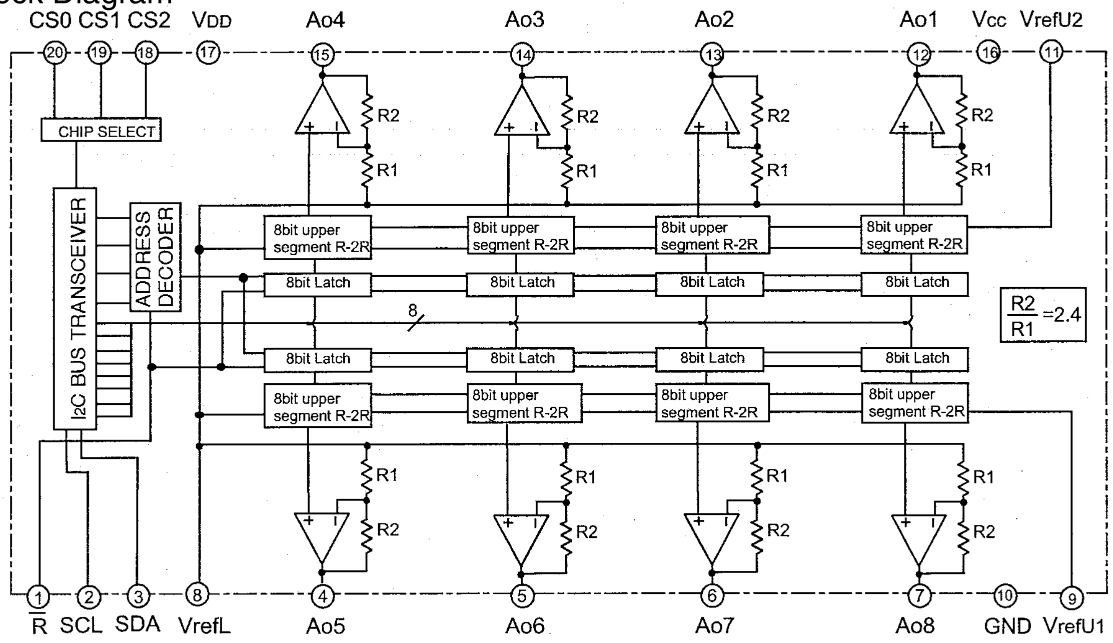
M62399FP (VIDEO UCOM SERVICE ASSY : IC1905)

8-Bit D-A Converter with Buffer Amplifiers

● Pin Assignment (Top view)


M62399 FP
R̄ 1
SCL 2
SDA 3
Ao5 4
Ao6 5
Ao7 6
Ao8 7
VrefL 8
VrefU1 9
GND 10
20 CS0
19 CS1
18 CS2
17 VDD
16 Vcc
15 Ao4
14 Ao3
13 Ao2
12 Ao1
11 VrefU2

● Block Diagram


CS0 CS1 CS2 VDD Ao4 Ao3 Ao2 Ao1 Vcc VrefU2
20 19 18 17 15 14 13 12 16 11
CHIP SELECT
I2C BUS TRANSCEIVER
ADDRESS DECODER
R2
R1
8bit upper segment R-2R
8bit Latch
8
R2/R1 =2.4
1 2 3 8 4 5 6 7 10 9
R̄ SCL SDA VrefL Ao5 Ao6 Ao7 Ao8 GND VrefU1

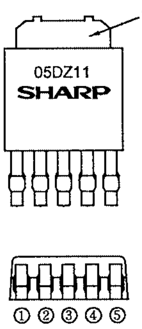
● Pin Function

Pin No.	Symbol	Function
③	SDA	Serial data input terminal
①	R̄	Reset signal input terminal
②	SCL	Serial clock input terminal
⑫	Ao1	8-bit D-A converter output terminal
⑬	Ao2	
⑭	Ao3	
⑮	Ao4	
④	Ao5	
⑤	Ao6	
⑥	Ao7	
⑦	Ao8	
⑯	Vcc	Analog power supply terminal
⑰	VDD	Digital power supply terminal
⑩	GND	Analog and digital common GND
⑧	VrefL	D-A converter low level reference voltage input terminal
⑨	VrefU1	D-A converter high level reference voltage input terminal 1
⑪	VrefU2	D-A converter high level reference voltage input terminal 2
⑱	CS2	Chip select data input terminal 2
⑲	CS1	Chip select data input terminal 1
⑳	CS0	Chip select data input terminal 0

■ PQ05DZ11 (SIGNAL ASSY : IC2502) (VIDEO UCOM SERVICE ASSY : IC4302, IC4303, IC4307)

2 Channel Analog Multiplexer

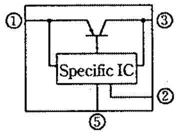
● Pin Assignment (Top view)


③
05DZ11
SHARP
① ② ③ ④ ⑤

● Features

Output current (I)	Output voltage (V)
	5V output
1A	PQ05DZ11

● Block Diagram

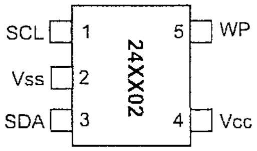

①
③
Specific IC
②
⑤

① DC input (VIN)
② ON/OFF control terminal (Vc)
③ DC output (Vo)
④ NC
⑤ GND
Heat sink is common to terminal ③ (Vo)

■ 24LC02B(I)SN (DVI SERVICE ASSY : IC6003, IC6014)

Serial EEPROM

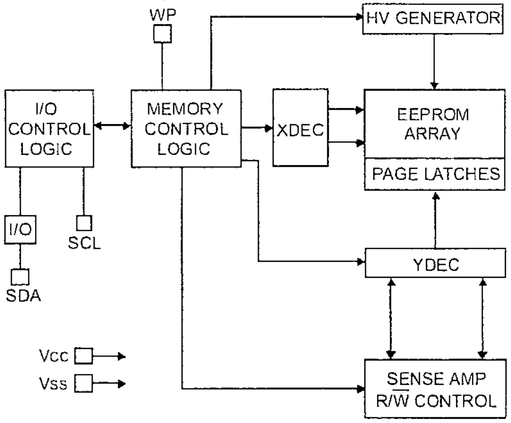
● Pin Assignment (Top view)


SCL 1
Vss 2
SDA 3
5 WP
4 Vcc
24XX02

● Pin Function

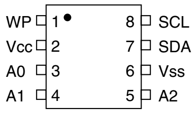
NAME	FUNCTION
Vss	Ground
SDA	Serial Address/Data I/O
SCL	Serial Clock
WP	Write Protect Input
Vcc	+2.5 to 5.5V Power Supply (+1.8V to 5.5V for 24AA04 and 24AA02)

● Block Diagram


WP
HV GENERATOR
I/O CONTROL LOGIC
MEMORY CONTROL LOGIC
XDEC
EEPROM ARRAY
PAGE LATCHES
I/O
SCL
SDA
YDEC
Vcc
Vss
SENSE AMP R/W CONTROL

■ 24LC64(I) P (DIGITAL CONV. ASSY : IC1203) Serial EEPROM

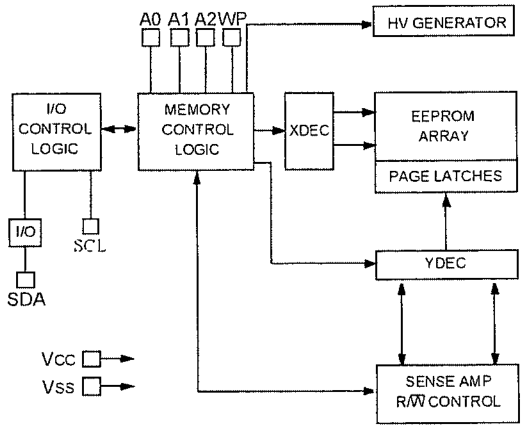
● Pin Assignment (Top view)


WP 1
Vcc 2
A0 3
A1 4
8 SCL
7 SDA
6 Vss
5 A2

● Pin Function

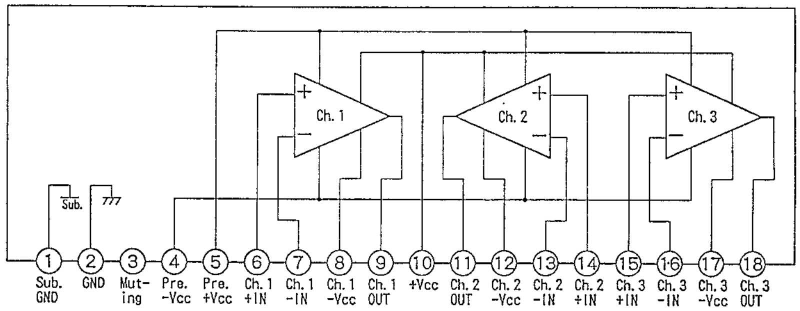
NAME	FUNCTION
Vss	Ground
SDA	Serial Address/Data I/O
SCL	Serial Clock
WP	Write Protect Input
Vcc	+2.5V to 5.5V Power Supply (24AA64: +1.8V to 5.5V)
A0, A1, A2	User Configurable Chip Selects

● Block Diagram

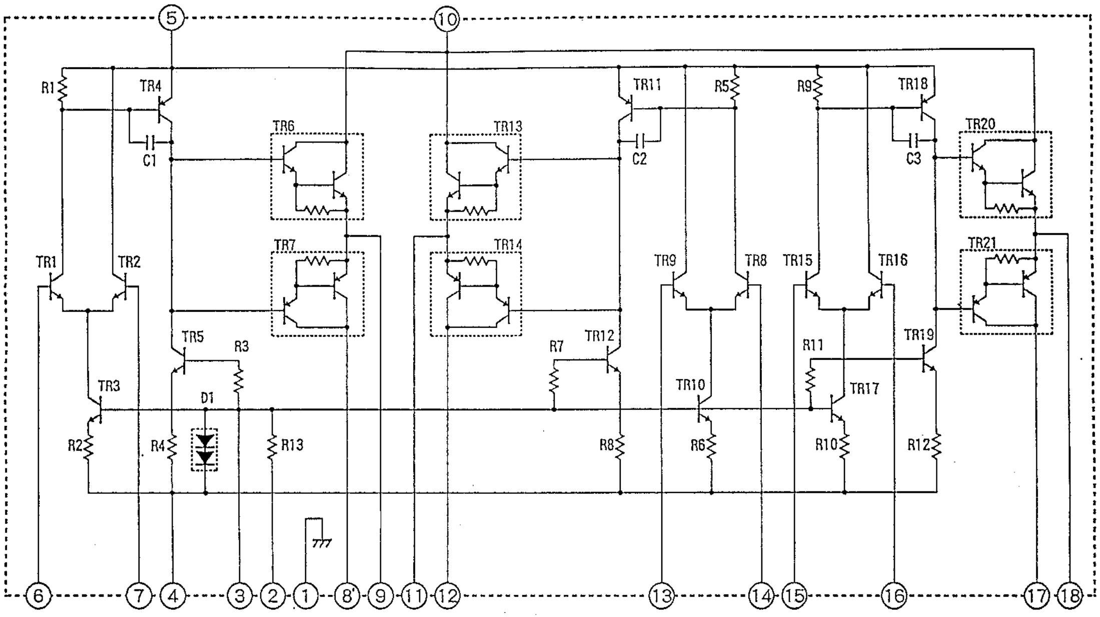

A0 A1 A2 WP
HV GENERATOR
I/O CONTROL LOGIC
MEMORY CONTROL LOGIC
XDEC
EEPROM ARRAY
PAGE LATCHES
I/O
SCL
SDA
YDEC
Vcc
Vss
SENSE AMP R/W̄ CONTROL

■ STK392-180 (POWER SUPPLY ASSY : IC401, IC402) Power Pack IC for TV

● Block Diagram


Ch. 1
Ch. 2
Ch. 3
Sub.
1 Sub. GND
2 GND
3 Muting
4 Pre. -Vcc
5 Pre. +Vcc
6 Ch. 1 +IN
7 Ch. 1 -IN
8 Ch. 1 -Vcc
9 Ch. 1 OUT
10 +Vcc
11 Ch. 2 OUT
12 Ch. 2 -Vcc
13 Ch. 2 -IN
14 Ch. 2 +IN
15 Ch. 3 +IN
16 Ch. 3 -IN
17 Ch. 3 -Vcc
18 Ch. 3 OUT

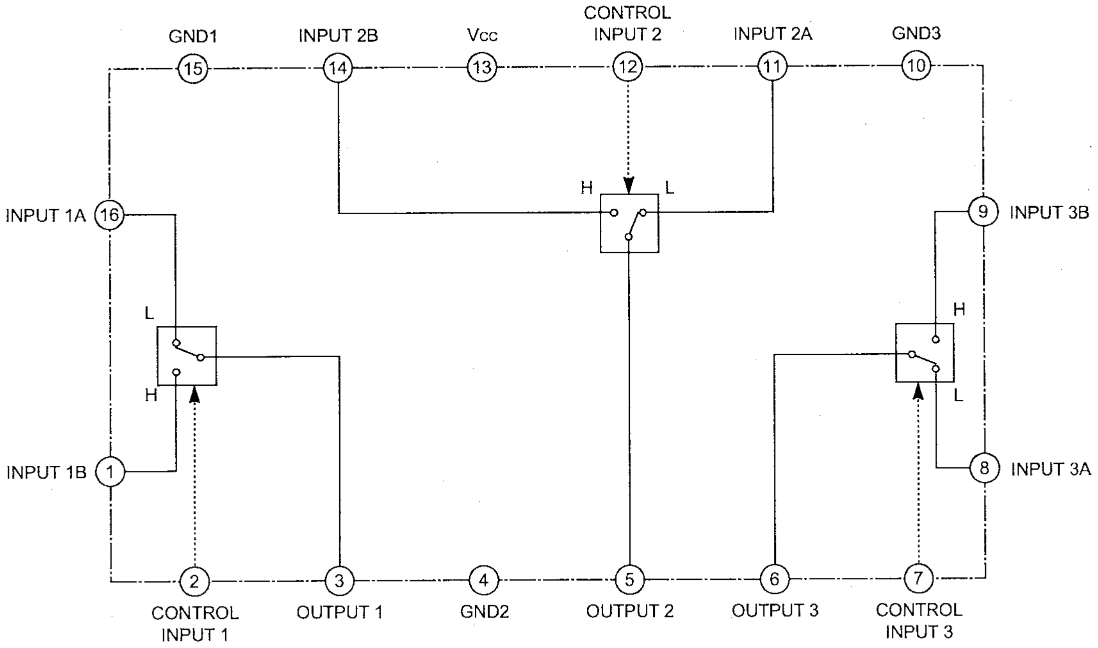
● Equivalent Circuit


5
10
R1
TR4
C1
TR6
TR13
TR11
C2
R5
R9
TR18
C3
TR20
TR7
TR14
TR21
TR1
TR2
TR9
TR8
TR15
TR16
TR5
R3
R7
TR12
R11
TR19
TR3
D1
TR10
TR17
R2
R4
R13
R8
R6
R10
R12
6
7
4
3
2
1
8
9
11
12
13
14
15
16
17
18

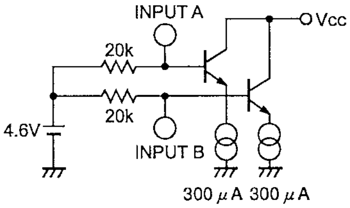
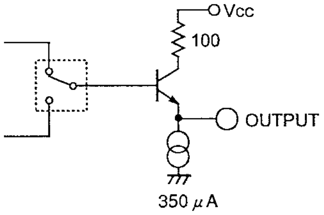
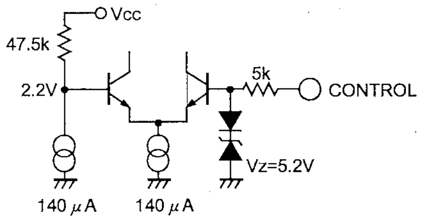
■ M52055FP (VIDEO UCOM SERVICE ASSY : IC2804, IC2805, IC4305, IC4306, IC4601) (SIGNAL ASSY: IC3907)

3ch Analog SW IC

● Block Diagram

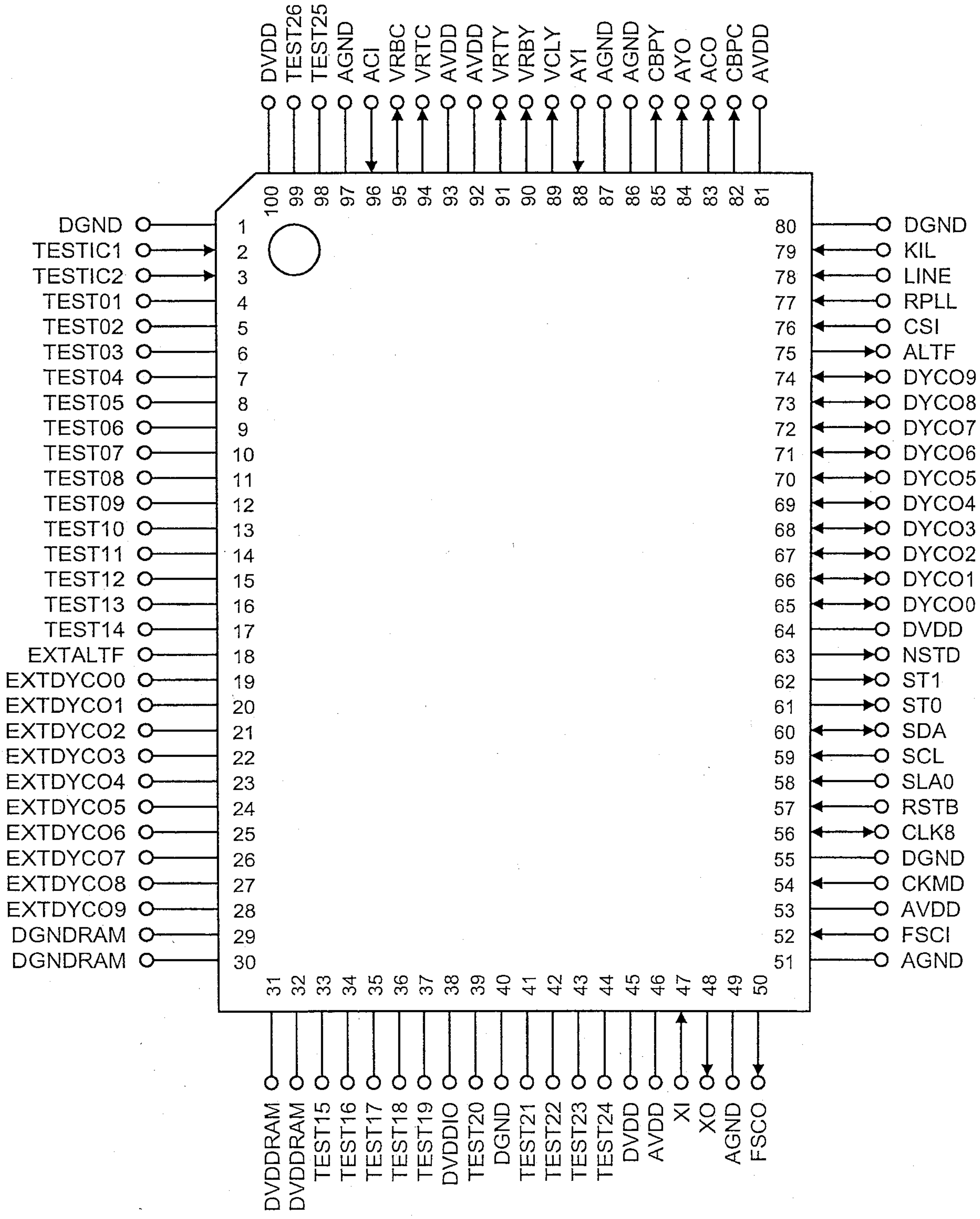

GND1
INPUT 2B
Vcc
CONTROL INPUT 2
INPUT 2A
GND3
15
14
13
12
11
10
H
L
INPUT 1A
16
9
INPUT 3B
L
H
H
L
INPUT 1B
1
8
INPUT 3A
2
3
4
5
6
7
CONTROL INPUT 1
OUTPUT 1
GND2
OUTPUT 2
OUTPUT 3
CONTROL INPUT 3

● Pin Function

Pin No.	Symbol	Equivalent Circuit	Description of terminal
1 8 9 11 14 16	INPUT	 INPUT A Vcc 20k 20k 4.6V INPUT B 300 μA 300 μA	Input terminal
3 5 6	OUTPUT	 Vcc 100 OUTPUT 350 μA	Output terminal
2 7 12	CONTROL	 Vcc 47.5k 2.2V 5k CONTROL Vz=5.2V 140 μA 140 μA	Pulse Input terminal

■ UPD64083GF (SIGNAL ASSY : IC2503)
Digital CRT Controller

● Pin Assignment (Top view)


1 DGND
2 TESTIC1
3 TESTIC2
4 TEST01
5 TEST02
6 TEST03
7 TEST04
8 TEST05
9 TEST06
10 TEST07
11 TEST08
12 TEST09
13 TEST10
14 TEST11
15 TEST12
16 TEST13
17 TEST14
18 EXTALTF
19 EXTDYCO0
20 EXTDYCO1
21 EXTDYCO2
22 EXTDYCO3
23 EXTDYCO4
24 EXTDYCO5
25 EXTDYCO6
26 EXTDYCO7
27 EXTDYCO8
28 EXTDYCO9
29 DGNDRAM
30 DGNDRAM
31 DVDDRAM
32 DVDDRAM
33 TEST15
34 TEST16
35 TEST17
36 TEST18
37 TEST19
38 DVDDIO
39 TEST20
40 DGND
41 TEST21
42 TEST22
43 TEST23
44 TEST24
45 DVDD
46 AVDD
47 XI
48 XO
49 AGND
50 FSCO
51 AGND
52 FSCI
53 AVDD
54 CKMD
55 DGND
56 CLK8
57 RSTB
58 SLA0
59 SCL
60 SDA
61 ST0
62 ST1
63 NSTD
64 DVDD
65 DYCO0
66 DYCO1
67 DYCO2
68 DYCO3
69 DYCO4
70 DYCO5
71 DYCO6
72 DYCO7
73 DYCO8
74 DYCO9
75 ALTF
76 CSI
77 RPLL
78 LINE
79 KIL
80 DGND
81 AVDD
82 CBPC
83 ACO
84 AYO
85 CBPY
86 AGND
87 AGND
88 AYI
89 VCLY
90 VRBY
91 VRTY
92 AVDD
93 AVDD
94 VRTC
95 VRBC
96 ACI
97 AGND
98 TEST25
99 TEST26
100 DVDD

● Pin Function (1/3)

No.	Symbol	I/O	Level	Buffer type PU/PD [kΩ]	Description
1	DGND	-	-		Digital section ground
2-3	TESTIC1 - TESTIC2	-	LVTTL	3.3 V PD:50	IC Testing ('L' : Normal mode, 'H' : Test mode) (Grounded)
4-17	TEST1 - TEST14	-	-		Device Test (Open)
18	EXTALTF	O	LVTTL	3.3 V 3 mA	Extended Alternate Flag Output (This pin is enable in EXTDYCO = 1)
19-28	EXTDYCO1- EXTDYCO9	I / O	LVTTL 3-state	3.3 V 3mA	Extended Digital I/O (These pins are enable in EXTDYCO = 1)
29-30	DGNDRAM	-	-		DRAM section ground
31-32	DVDDRAM	-	-		DRAM section supply voltage (2.5V)
33-37	TEST15 - TEST19	-	-		Device Test (Open)
38	DVDIO	-	-		I/O terminal section supply voltage (3.3V)
39	TEST20	-	-		Device Test (Grounded)
40	DGND	-	-		Digital section ground
41-44	TEST21 - TEST24	-	-		Device Test (Grounded)
45	DVDD	-	-		Digital section supply voltage
46	AVDD	-	-		fsc generator DAC section supply voltage
47	XI	I	Analog	2.5 V	fsc generator reference clock input (X'tal is connected.)
48	XO	O	Analog	2.5 V	fsc generator reference clock inverted output (X'tal is connected.)
49	AGND	-	-		fsc generator DAC section ground
50	FSCO	-	Analog	2.5 V	fsc generator fsc output
51	AGND	-	-		8fsc-PLL ground
52	FSCI	-	Analog	2.5 V	8fsc-PLL fsc input
53	AVDD	-	-		8fsc-PLL section supply voltage
54	CKMD	I	LVTTL	5 V resistant PD:50	Clock mode test input ('L' : Normal mode, 'H' : Test mode) (Grounded)
55	DGND	-	-		Digital section ground
56	CLK8	O / I	LVTTL 3-state	3.3 V 6mA	8fsc clock output (8fsc clock input when CKMD pin = H)
57	RSTB	I	Schmitt	5 V resistant PU:50	System reset input (active-low) (Active-low reset pulse is input from the outside.)
58	SLA0	I	TTL	5 V resistant PD:50	I^{2}C bus slave address selection input ('L' : B8 / B9h, 'H' : BA / BBh)
59	SCL	I	Schmitt	5 V resistant	I^{2}C bus clock input (Connected to system SCL line)

Pin Function (2/3)

No.	Symbol	I/O	Level	Buffer type PU/PD [kΩ]	Description
60	SDA	I / O	Schmitt	5 V resistant 6mA	I²C bus data input/output (Connected to system SDA line)
61	ST0	O	LVTTL	3.3 V 3 mA	Internal signal monitor output 0
62	ST1	O	LVTTL	3.3 V 3 mA	Internal signal monitor output 1
63	NSTD	O	LVTTL	3.3 V 3 mA	Nonstandard signal detection monitor output ('L' : standard, 'H' : nonstandard)
64	DVDD	-	-		Digital section supply voltage
65-74	DYCO0-DYCO9 (LSB)-(MSB)	I/O	LVTTL	5 V resistant 3mA	EXADINS=0: Digital YC signal alternate output EXADINS=1: Digital video data input for external Y-ADC (Pull down unuse lower bit pins via 100 Ω resistor) DYCO0 is the LSB, DYCO9 is the MSB.
75	ALTF	O	LVTTL	3.3 V 3 mA	EXADINS=0: Digital YC signal alternate flag output ('L' : C, 'H' : Y) EXADINS=1: 4fsc clock output for external Y-ADC
76	CSI	I	Schmitt	5 V resistant PU:50	Composite sync input (active-low)
77	RPLL	-	LVTTL	3.3 V PD:50	Test pin (Grounded)
78	LINE	I	LVTTL	3.3 V PD:50	Forced inter-line processing selection input ('L' : ordinary processing, 'H' : forced inter-line processing)
79	KIL	I	LVTTL	3.3 V PD:50	External killer input ('L' : ordinary processing, 'H' : forced YC separation stop)
80	DGND	-	-		Digital section ground
81	AVDD	-	-		Y-DAC and C-DAC supply voltage
82	CBPC	O	Analog	2.5 V	C-DAC phase compensation output
83	ACO	O	Analog	2.5 V	C-DAC analog C signal output
84	AYO	O	Analog	2.5 V	Y-DAC analog Y signal output
85	CBPY	O	Analog	2.5 V	Y-DAC phase compensation output
86	AGND	-	-		Y-DAC and C-DAC ground
87	AGND	-	-		Y-ADC ground
88	AYI	I	Analog	2.5 V	Y-ADC analog composite signal or Y signal input
89	VCLY	O	Analog	2.5 V	Y-ADC clamp potential output
90	VRBY	O	Analog	2.5 V	Y-ADC bottom reference voltage output
91	VRTY	O	Analog	2.5 V	Y-ADC top reference voltage output
92	AVDD	-	-		Y-ADC supply voltage
93	AVDD	-	-		C-ADC supply voltage
94	VRTC	O	Analog	2.5 V	C-ADC top reference voltage output
95	VRBC	O	Analog	2.5 V	C-ADC bottom reference voltage output

Pin Function (3/3)

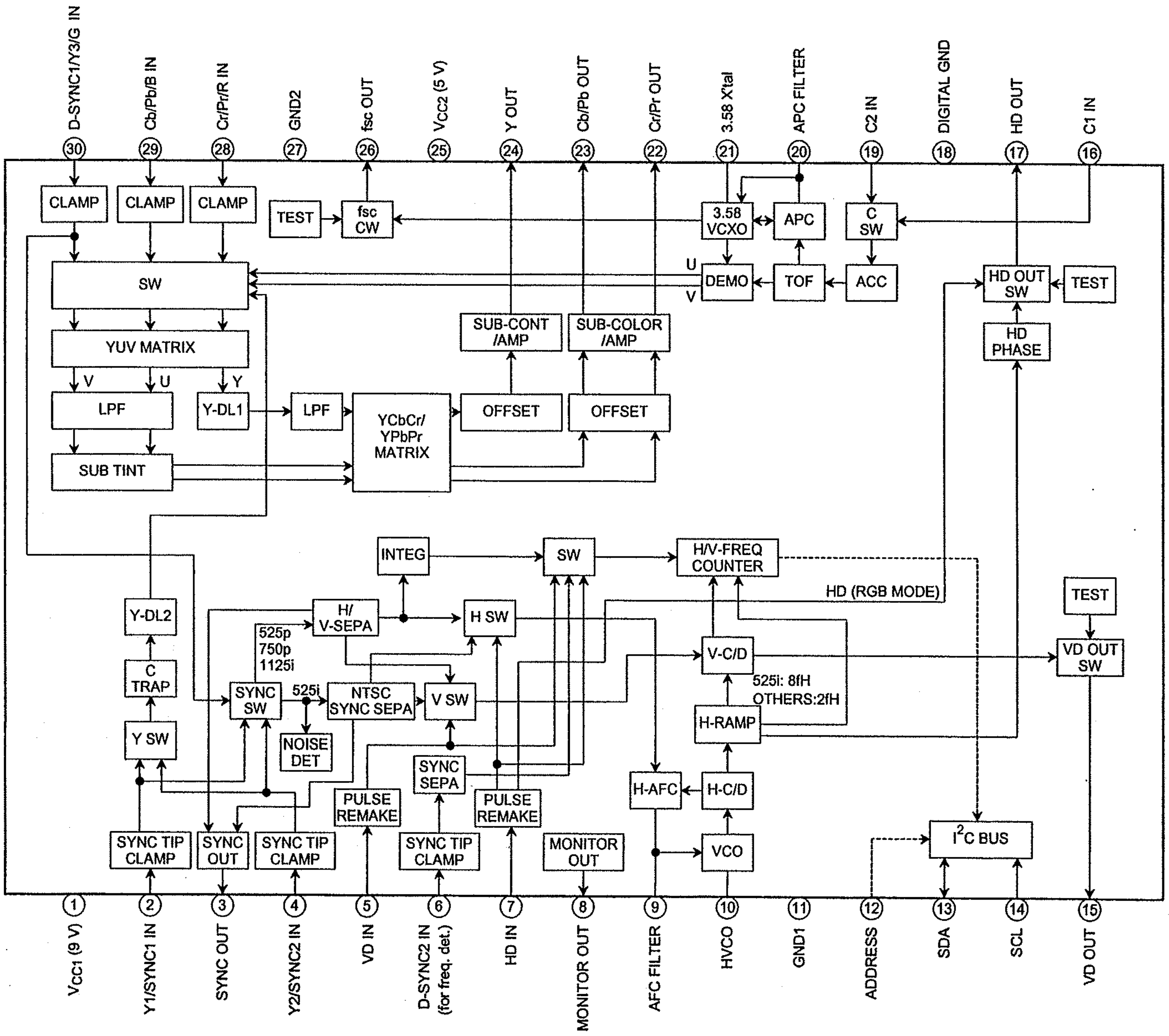
No.	Symbol	I/O	Level	Buffer type PU/PD [kΩ]	Description
96	ACI	I	Analog	2.5 V	C-ADC analog C signal input
97	AGND	-	-		C-ADC ground
98-99	TEST25 - TEST26	-	-		Device Test (Open)
100	DVDD	-	-		Digital section supply voltage

This page intentionally left blank

This page intentionally left blank

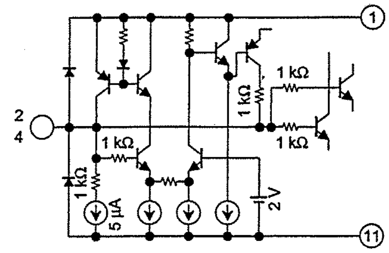
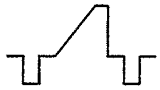
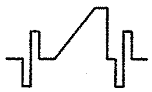
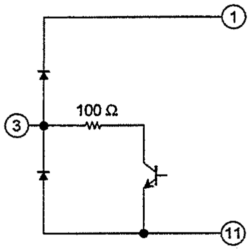
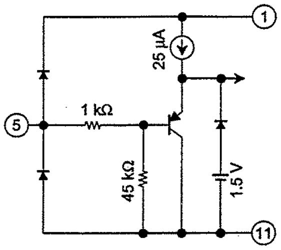
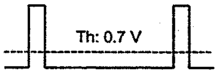
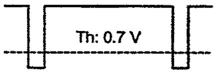
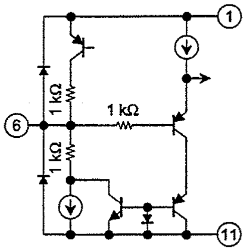
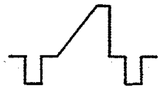
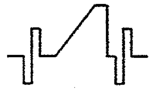
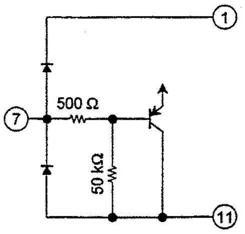
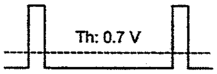
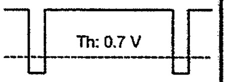
■ TA1340F (VIDEO UCOM SERVICE ASSY : IC2803, IC2806) AFC IC

● Pin Assignment (Top view)

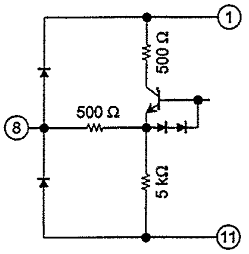
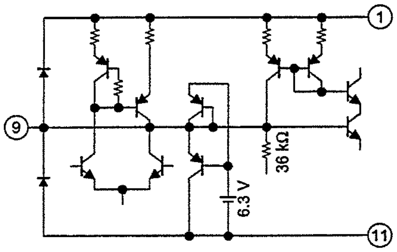
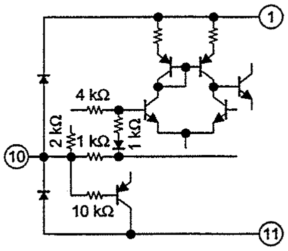
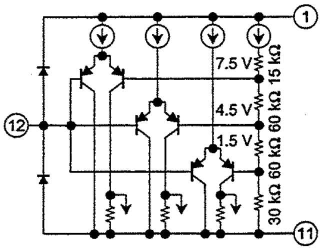
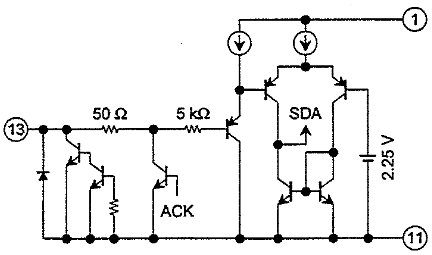

D-SYNC1/Y3/G IN
Cb/Pb/B IN
Cr/Pr/R IN
GND2
fsc OUT
VCC2 (5 V)
Y OUT
Cb/Pb OUT
Cr/Pr OUT
3.58 X'tal
APC FILTER
C2 IN
DIGITAL GND
HD OUT
C1 IN
㉚
㉙
㉘
㉗
㉖
㉕
㉔
㉓
㉒
㉑
⑳
⑲
⑱
⑰
⑯
CLAMP
CLAMP
CLAMP
TEST
fsc CW
3.58 VCXO
APC
C SW
SW
U
V
DEMO
TOF
ACC
HD OUT SW
TEST
YUV MATRIX
SUB-CONT /AMP
SUB-COLOR /AMP
HD PHASE
V
U
Y
LPF
Y-DL1
LPF
YCbCr/ YPbPr MATRIX
OFFSET
OFFSET
SUB TINT
INTEG
SW
H/V-FREQ COUNTER
HD (RGB MODE)
TEST
Y-DL2
H/ V-SEPA
H SW
525p
750p
1125i
V-C/D
VD OUT SW
C TRAP
SYNC SW
525i
NTSC SYNC SEPA
V SW
525i: 8fH
OTHERS:2fH
H-RAMP
Y SW
NOISE DET
SYNC SEPA
PULSE REMAKE
PULSE REMAKE
H-AFC
H-C/D
SYNC TIP CLAMP
SYNC OUT
SYNC TIP CLAMP
SYNC TIP CLAMP
MONITOR OUT
VCO
I²C BUS
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
VCC1 (9 V)
Y1/SYNC1 IN
SYNC OUT
Y2/SYNC2 IN
VD IN
D-SYNC2 IN (for freq. det.)
HD IN
MONITOR OUT
AFC FILTER
HVCO
GND1
ADDRESS
SDA
SCL
VD OUT

Pin Function (1/4)

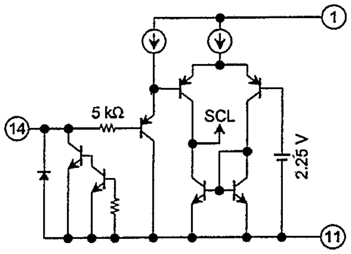
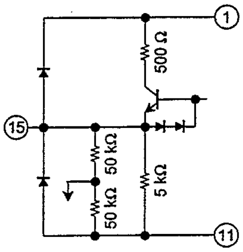
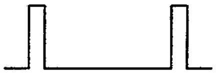
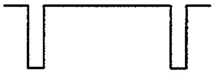
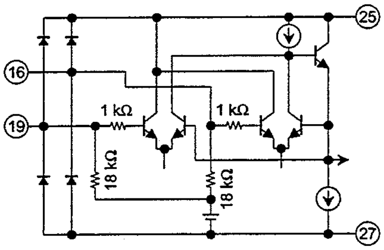
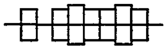
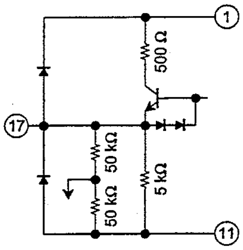
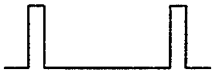
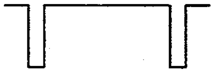
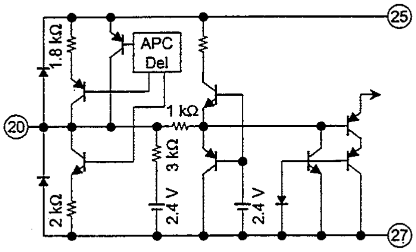
Pins (unless otherwise specified, $V_{CC1} = 9$ V, $V_{CC2} = 5$ V, Ta = 25°C)

Pin No.	Symbol	Function	Interface	I/O Signal
1	V_{CC1} (9 V)	V_{CC} for sync separation block, outputs, and interface. Connects 9 V (typ.).		—
2 4	Y1/SYNC1 IN Y2/SYNC2 IN	Y signal input pin. Inputs NTSC or 2-H Y signal via clamp capacitor. Sync signal is separated from Y signal input to this pin. Can also be used for sync-only input pins. When not used, leave open.	 1 2 4 1 kΩ 1 kΩ 1 kΩ 1 kΩ 1 kΩ 5 µA 2 V 11	1 V_{p-p} (with Sync) Sync-Tip: 2.0 V  or 
3	SYNC OUT	Outputs sync-separated C-SYNC. Open collector output.		High/Low
5	VD IN	Inputs vertical sync VD signal. Inputs positive- and negative-polarity signals. When not used, leave open.	 1 25 µA 5 1 kΩ 45 kΩ 1.5 V 11	 or 
6	D-SYNC2 IN (for freq. det.)	Inputs Y signal for identifying frequency. Inputs Y signals such as 525IP, 720P, and 1125I via clamp capacitor. When not used, leave open.	 1 1 kΩ 6 1 kΩ 1 kΩ 11	1 V_{p-p} (with Sync) Sync-Tip: 2.0 V  or 
7	HD IN	Inputs horizontal sync HD signal. Inputs positive- and negative-polarity signals. When not used, leave open.	 1 7 500 Ω 50 kΩ 11	 or 

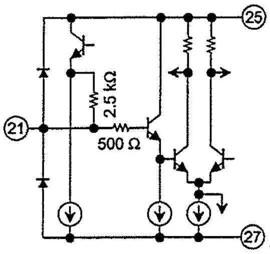
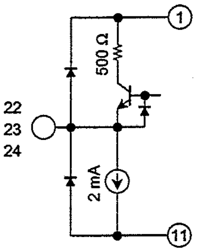
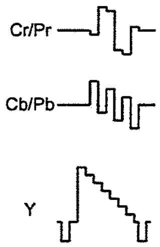
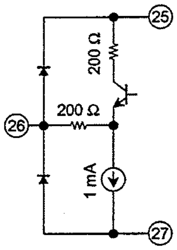
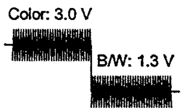
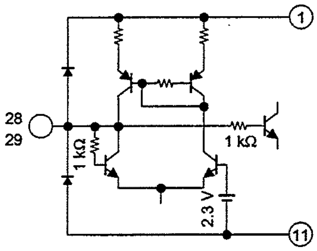
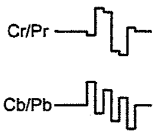
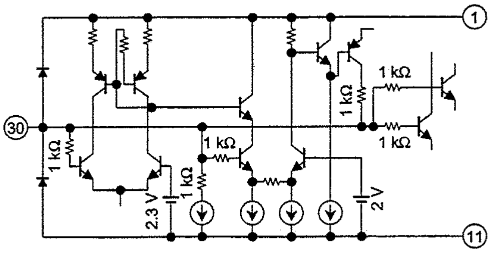
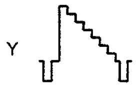
Pin Function (2/4)

Pin No.	Symbol	Function	Interface	I/O Signal
8	MONITOR OUT	Monitor output pin. Emitter follower output. Selects output signal according to bus setting.	 1 500 Ω 500 Ω 8 5 kΩ 11	—
9	AFC FILTER	Connects horizontal AFC filter. Voltage of this pin determines horizontal output frequency.	 1 9 36 kΩ 6.3 V 11	—
10	HVCO	Connects ceramic oscillator for horizontal oscillation. Use Murata CSBLA503KECZF30 or CSBFB503KJCZF30.	 1 4 kΩ 2 kΩ 1 kΩ 1 kΩ 10 10 kΩ 11	—
11	GND1	GND pin for 9-V block.	—	—
12	ADDRESS	Switches slave addresses. Slave addresses are set according to voltage of this pin. V_{CC} (9 V): DE_H/DF_H 6 V: DC_H/DD_H 3 V: DA_H/DB_H GND: $D8_H/D9_H$	 1 7.5 V 15 kΩ 4.5 V 60 kΩ 12 1.5 V 60 kΩ 30 kΩ 11	V_{CC} (9 V) V_{CC}: DE_H/DF_H 7.5 V 6 V: DC_H/DD_H 4.5 V 3 V: DA_H/DB_H 1.5 V GND: $D8_H/D9_H$ GND
13	SDA	I^2C bus SDA pin.	 1 13 50 Ω 5 kΩ SDA 2.25 V ACK 11	—

Pin Function (3/4)

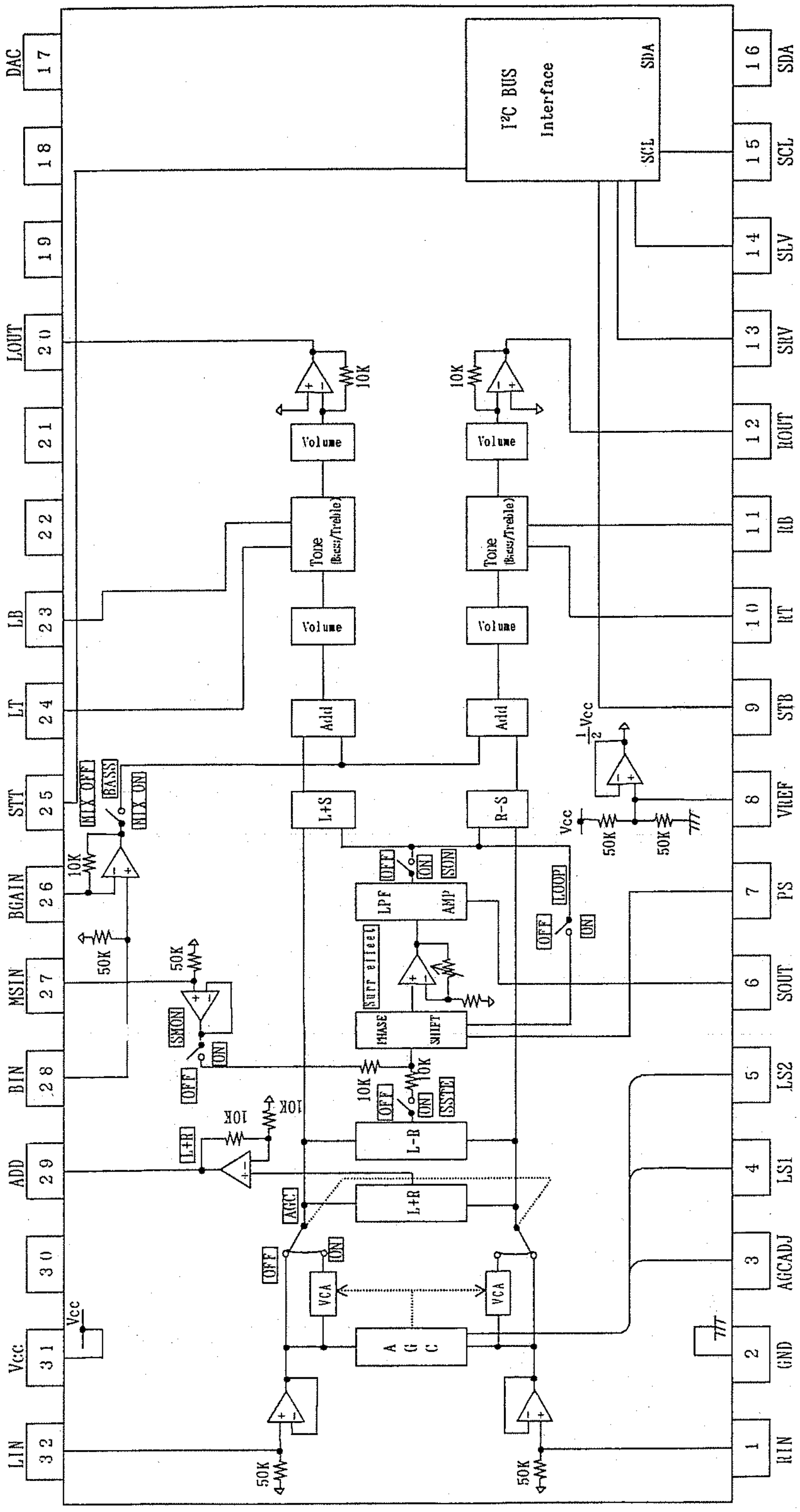
Pin No.	Symbol	Function	Interface	I/O Signal
14	SCL	I^{2}C bus SCL pin.	 1 14 5 kΩ SCL 2.25 V 11	—
15	VD OUT	Vertical sync VD output pin. Emitter follower output. Sets polarity of output signal according to bus setting.	 1 500 Ω 15 50 kΩ 50 kΩ 5 kΩ 11	 or 
16 19	C1 IN C2 IN	Inputs chroma signal via clamp capacitor. When not used, leave open.	 25 16 19 1 kΩ 1 kΩ 18 kΩ 18 kΩ 27	Burst: 300 mV$_{p\text{-}p}$ 
17	HD OUT	Horizontal sync HD output pin. Emitter follower output. Sets polarity of output signal according to bus setting.	 1 500 Ω 17 50 kΩ 50 kΩ 5 kΩ 11	 or 
18	DIGITAL GND	GND pin for digital block.	—	—
20	APC FILTER	Connects APC filter for chroma demodulation.	 25 1.8 kΩ APC Del 20 1 kΩ 3 kΩ 2 kΩ 2.4 V 2.4 V 27	—

Pin Function (4/4)

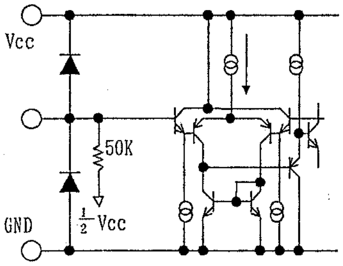
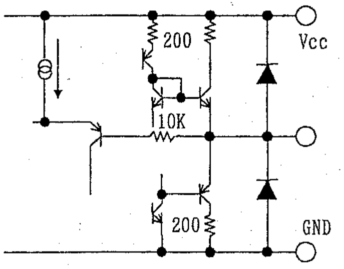
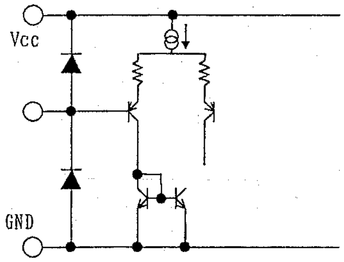
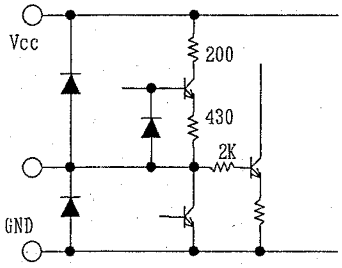
Pin No.	Symbol	Function	Interface	I/O Signal
21	3.58 MHz X'tal	Connects recommended 3.58-MHz oscillator for chroma demodulation.	 25 2.5 kΩ 21 500 Ω 27	—
22 23 24	Cr/Pr OUT Cb/Pb OUT Y OUT	Output Y, Cb, and Cr, or Y, Pb, and Pr signals. Emitter follower output. Set output format and amplitude according to bus setting.	 1 500 Ω 22 23 24 2 mA 11	
25	V_{CC2} (5 V)	V_{CC} for Y, chroma, and baseband processing block. Connects 5 V (typ.).	—	—
26	CW OUT	fsc carrier wave (CW) output pin. Emitter follower output.	 25 200 Ω 200 Ω 26 1 mA 27	AC: 600 mV_{p-p}  Color: 3.0 V B/W: 1.3 V
27	GND2	GND pin for 5-V block	—	—
28 29	Cr/Pr/R IN Cb/Pb/B IN	Inputs 525I/P, 1125I, and 750P Cr/Pr/R and Cb/Pb/B signal via clamp capacitor. Set input format according to bus setting. When not used, leave open.	 1 28 29 1 kΩ 1 kΩ 2.3 V 11	700 mV_{p-p} 
30	D-SYNC1/Y3/G IN	Inputs 525I/P, 750P, and 1125I Y signal or G signal via clamp capacitor. Sync signal is separated from Y (G) signal input to this pin. Set input format according to bus setting. When not used, leave open.	 1 1 kΩ 1 kΩ 1 kΩ 30 1 kΩ 1 kΩ 1 kΩ 2.3 V 1 kΩ 2 V 11	1 V_{p-p} (with Sync) 

■ BH3865S (VIDEO UCOM SERVICE ASSY : IC5502)
Audio IC

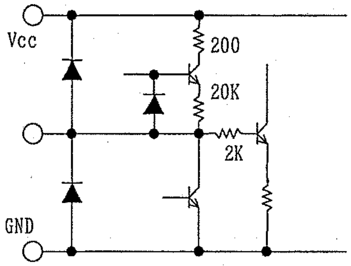
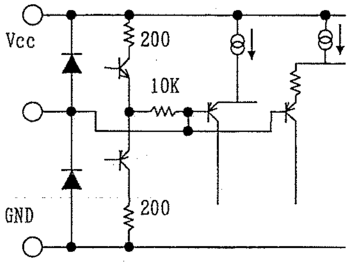
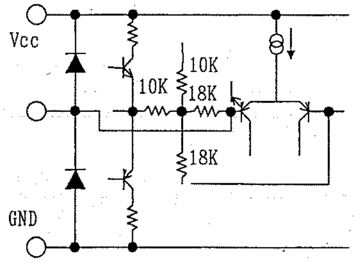
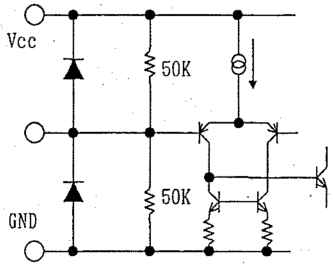
● Pin Assignment (Top view)


1 RIN
2 GND
3 AGCADJ
4 LS1
5 LS2
6 SOUT
7 PS
8 VREF
9 STB
10 RT
11 RB
12 ROUT
13 SRV
14 SLV
15 SCL
16 SDA
17 DAC
18
19
20 LOUT
21
22
23 LB
24 LT
25 STT
26 BGAIN
27 MSIN
28 BIN
29 ADD
30
31 Vcc
32 LIN
I²C BUS Interface
SDA
SCL
Volume
Tone (Bass/Treble)
Add
L+S
R-S
LPF
AMP
PHASE SHIFT
Surr effect
L-R
L+R
AGC
VCA
A G C
MIX OFF
BASS
MIX ON
SMON
OFF
ON
SUN
LOOP
SSTE
10K
50K
Vcc
1/2 Vcc

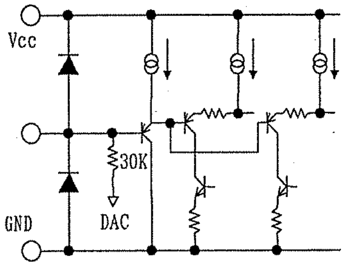
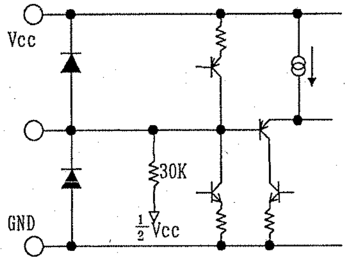
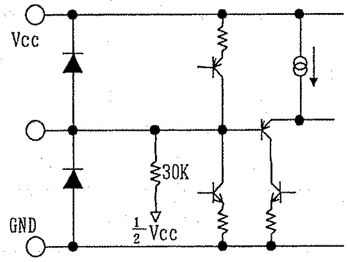
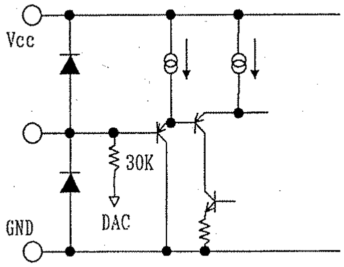
● Pin Function (1/5)

Terminal No.	Terminal Symbol	Terminal Voltage	Zin	I/O	Equivalent circuit	Description of terminal
1 32	RIN LIN	4.5V	50K	I	 Vcc 50K $\frac{1}{2}$Vcc GND	Input terminal.
12 20	ROUT LOUT	4.5V		O	 200 Vcc 10K 200 GND	Output terminal.
3	AGCADJ	—		I		Terminal to adjust 0dB of AGC. The terminal is connected to the base of PNP. Flowing current is i μA or less (TYP).
4	LS1	—		—	 Vcc 200 430 2K GND	Time constant terminal at the side to suppress a signal level of AGC.

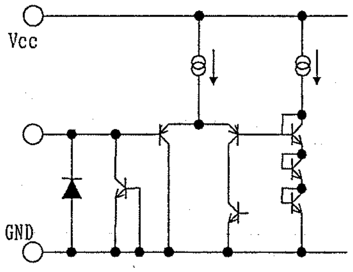
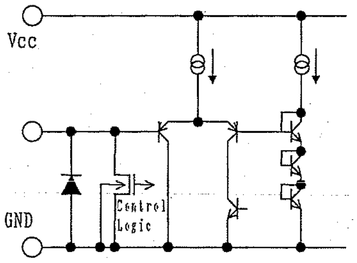
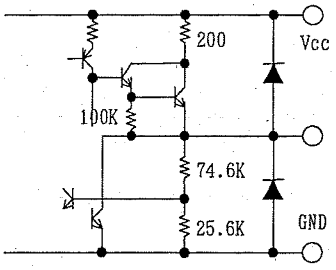
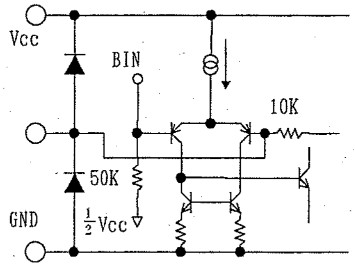
Pin Function (2/5)

Terminal number	Terminal symbol	Terminal voltage	Zin	I/O	Equivalent circuit	Description of terminal
5	LS2	–		–	 Vcc 200 20K 2K GND	Time constant terminal at the side to amplify a signal level of AGC.
6	SOUT	4.5V	10K	O	 Vcc 200 10K 200 GND	Output terminal for surround and simulated stereo, and terminal of LPF.
7	PS				 Vcc 10K 10K 18K 18K GND	Terminal for phase shifter for surround and simulated stereo.
8	VREF	4.5V		–	 Vcc 50K 50K GND	1/2 Vcc. Voltage for power supply of signal system.

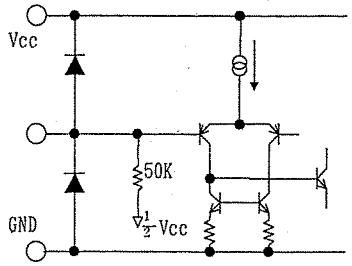
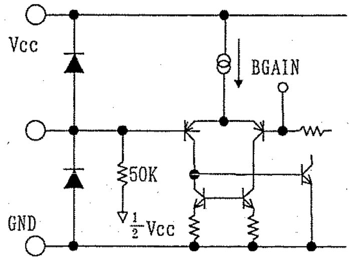
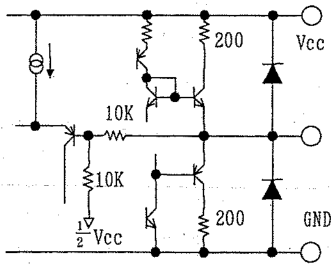
Pin Function (3/5)

Terminal number	Terminal symbol	Terminal voltage	Zin	I/O	Equivalent circuit	Description of terminal
9 25	STB STT	–	30K		 Vcc GND 30K DAC	Integration circuit for prevention of shock sound upon switching bass and treble.
10 24	RT LT	4.5V	30K		 Vcc GND 30K ½Vcc	Filter terminal for treble of Lch and Rch.
11 23	RB LB	4.5V	30K		 Vcc GND 30K ½Vcc	Filter terminal for bass of Lch and Rch.
13 14	SRV SLV	–	30K		 Vcc GND 30K DAC	Integration circuit for prevention of shock sound upon switching Lch and Rch.

● Pin Function (4/5)

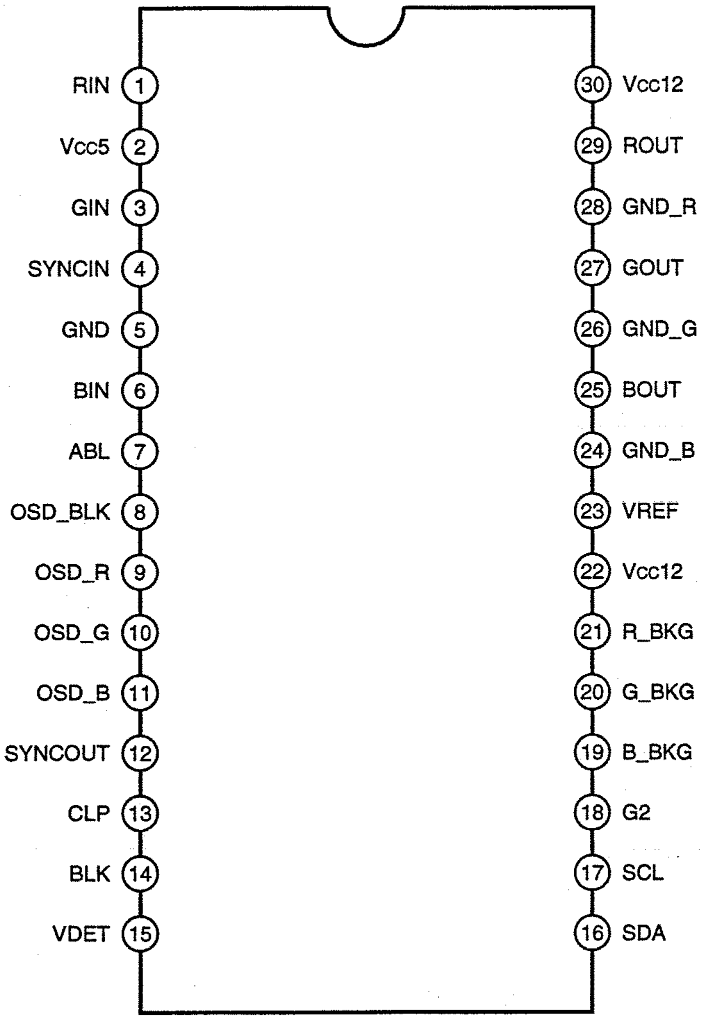
Terminal number	Terminal symbol	Terminal voltage	Zin	I/O	Equivalent circuit	Description of terminal
15	SCL	–		I		Terminal of SCL of I^2C bus. Clock terminal.
16	SDA	–		I	 Vcc Control Logic GND	Terminal of SDA of I^2C bus. ACKNOWLEDGE signal is outputted. Data terminal.
17	DAC	0/5		O	 200 Vcc 100K 74.6K 25.6K GND	Terminal to output 0V/5V controlled by I^2C bus.
26	BGAIN	4.5V			 Vcc BIN 10K 50K GND $\frac{1}{2}$Vcc	Terminal to adjust gain of Bass Mix for Lch and Rch.

● Pin Function (5/5)

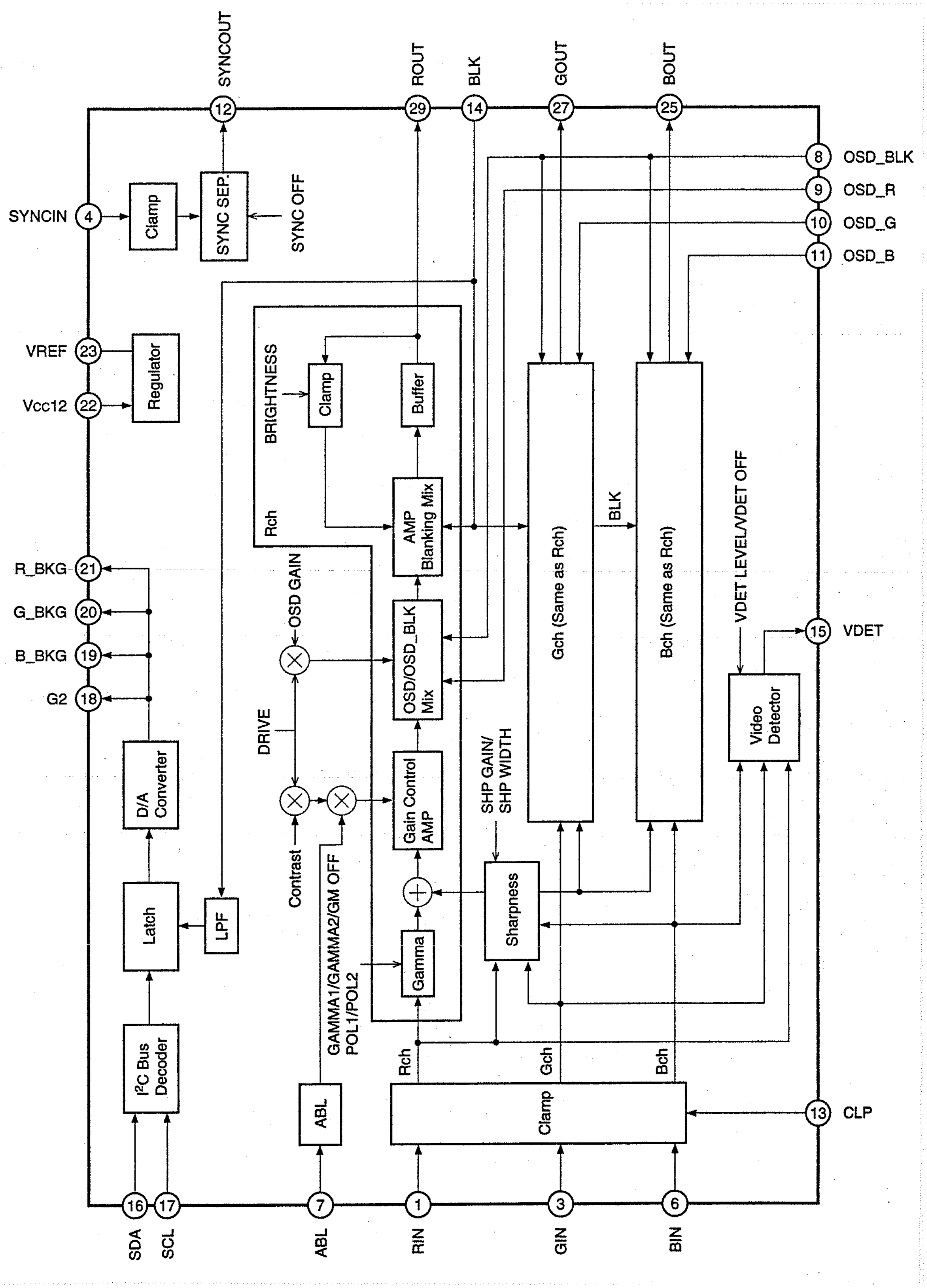
Terminal number	Terminal symbol	Terminal voltage	Zin	I/O	Equivalent circuit	Description of terminal
27	MSIN	4.5V	50K	I	 Vcc GND 50K ½Vcc	Surround input unit of monophonic signal of surround unit.
28	BIN	4.5V	50K	I	 Vcc BGAIN GND 50K ½Vcc	Terminal to input a bass signal for Lch and Rch.
29	ADD	4.5V		O	 200 Vcc 10K 10K ½Vcc 200 GND	Add terminal for Lch and Rch after AGC.
31	VCC	9V				Power supply terminal.
2	GND	0V				For grounding.

■ CXA2153S (VIDEO UCOM SERVICE ASSY : IC4606)
Preamplifier for High Resolution Computer Display

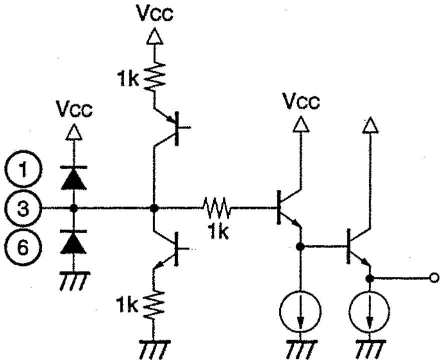
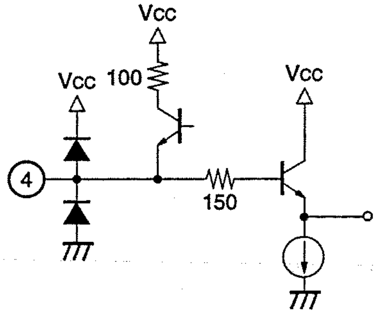
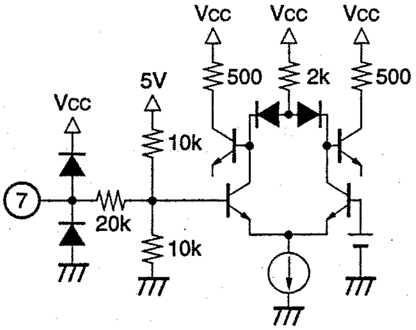
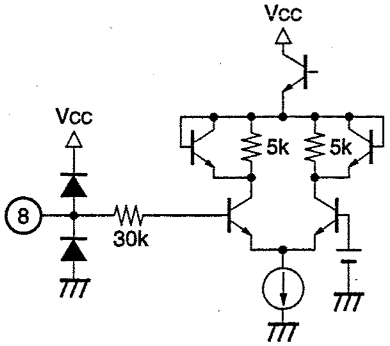
● Pin Assignment (Top view)


RIN 1
Vcc5 2
GIN 3
SYNCIN 4
GND 5
BIN 6
ABL 7
OSD_BLK 8
OSD_R 9
OSD_G 10
OSD_B 11
SYNCOUT 12
CLP 13
BLK 14
VDET 15
16 SDA
17 SCL
18 G2
19 B_BKG
20 G_BKG
21 R_BKG
22 Vcc12
23 VREF
24 GND_B
25 BOUT
26 GND_G
27 GOUT
28 GND_R
29 ROUT
30 Vcc12

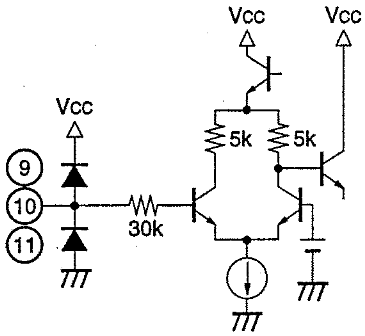
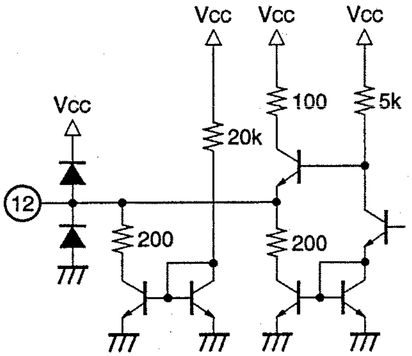
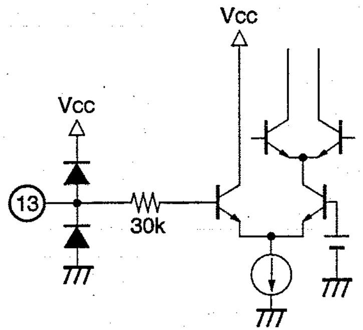
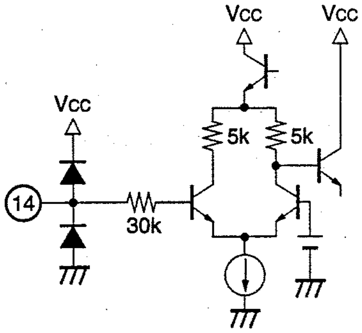
Block Diagram


SYNCOUT
ROUT
BLK
GOUT
BOUT
12
29
14
27
25
8 OSD_BLK
9 OSD_R
10 OSD_G
11 OSD_B
SYNCIN 4
Clamp
SYNC SEP.
SYNC OFF
VREF 23
Vcc12 22
Regulator
BRIGHTNESS
Clamp
Buffer
Rch
AMP Blanking Mix
BLK
Gch (Same as Rch)
Bch (Same as Rch)
VDET LEVEL/VDET OFF
15 VDET
Video Detector
R_BKG 21
G_BKG 20
B_BKG 19
G2 18
OSD GAIN
OSD/OSD_BLK Mix
DRIVE
D/A Converter
Gain Control AMP
SHP GAIN/ SHP WIDTH
Contrast
GAMMA1/GAMMA2/GM OFF POL1/POL2
Latch
LPF
Gamma
Sharpness
I²C Bus Decoder
Rch
Gch
Bch
ABL
Clamp
13 CLP
16
17
7
1
3
6
SDA
SCL
ABL
RIN
GIN
BIN

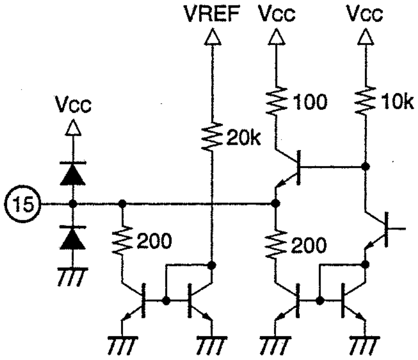
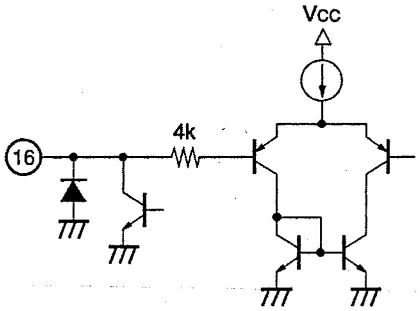
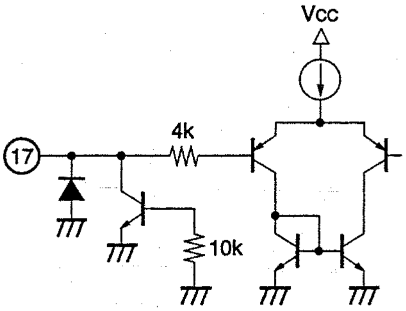
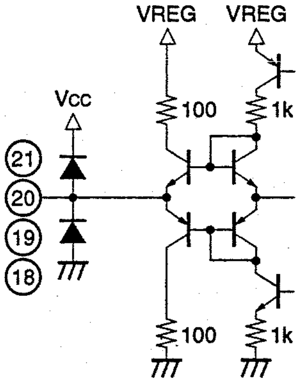
● Pin Function (1/4)

Pin No.	Symbol	Pin voltage	Equivalent circuit	Description
1 3 6	RIN GIN BIN	3.1V (CLAMP)	 Vcc 1k Vcc Vcc ① ③ ⑥ 1k 1k	RGB signal inputs. Input via the capacitor.
2	Vcc5	5V		5V power supply.
4	SYNCIN	2.9V	 Vcc Vcc 100 Vcc ④ 150	Sync-on-green signal input. Input via the capacitor.
5	GND			GND
7	ABL	2.5V (when open)	 Vcc Vcc Vcc 500 2k 500 5V Vcc 10k ⑦ 20k 10k	ABL input.
8	OSD_BLK		 Vcc Vcc 5k 5k ⑧ 30k	OSD_BLK control input. VILMAX = 0.8V VIHMIN = 2.8V

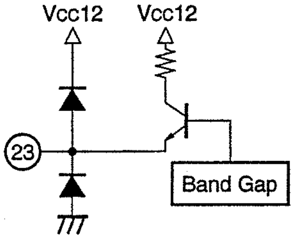
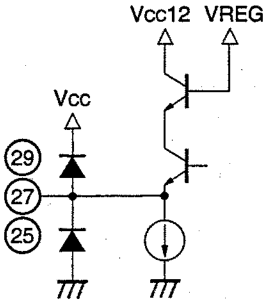
● Pin Function (2/4)

Pin No.	Symbol	Pin voltage	Equivalent circuit	Description
9 10 11	OSD_R OSD_G OSD_B		 Vcc Vcc Vcc 9 10 11 30k 5k 5k	OSD control input. VILMAX = 0.8V VIHMIN = 2.8V
12	SYNCOUT		 Vcc Vcc Vcc Vcc 12 20k 100 5k 200 200	Sync separator output of Sync-on-green signal. I^2C bus SOG off: Output at 0. Typ.: High = 4.2V Low = 0.2V (positive polarity)
13	CLP		 Vcc Vcc 13 30k	Clamp pulse (positive polarity) input. VILMAX = 0.8V VIHMIN = 2.8V
14	BLK		 Vcc Vcc Vcc 14 30k 5k 5k	Blanking pulse input. Set the V blanking pulse width to 300µs or more. VILMAX = 1.2V VIHMIN = 4.7V

● Pin Function (3/4)

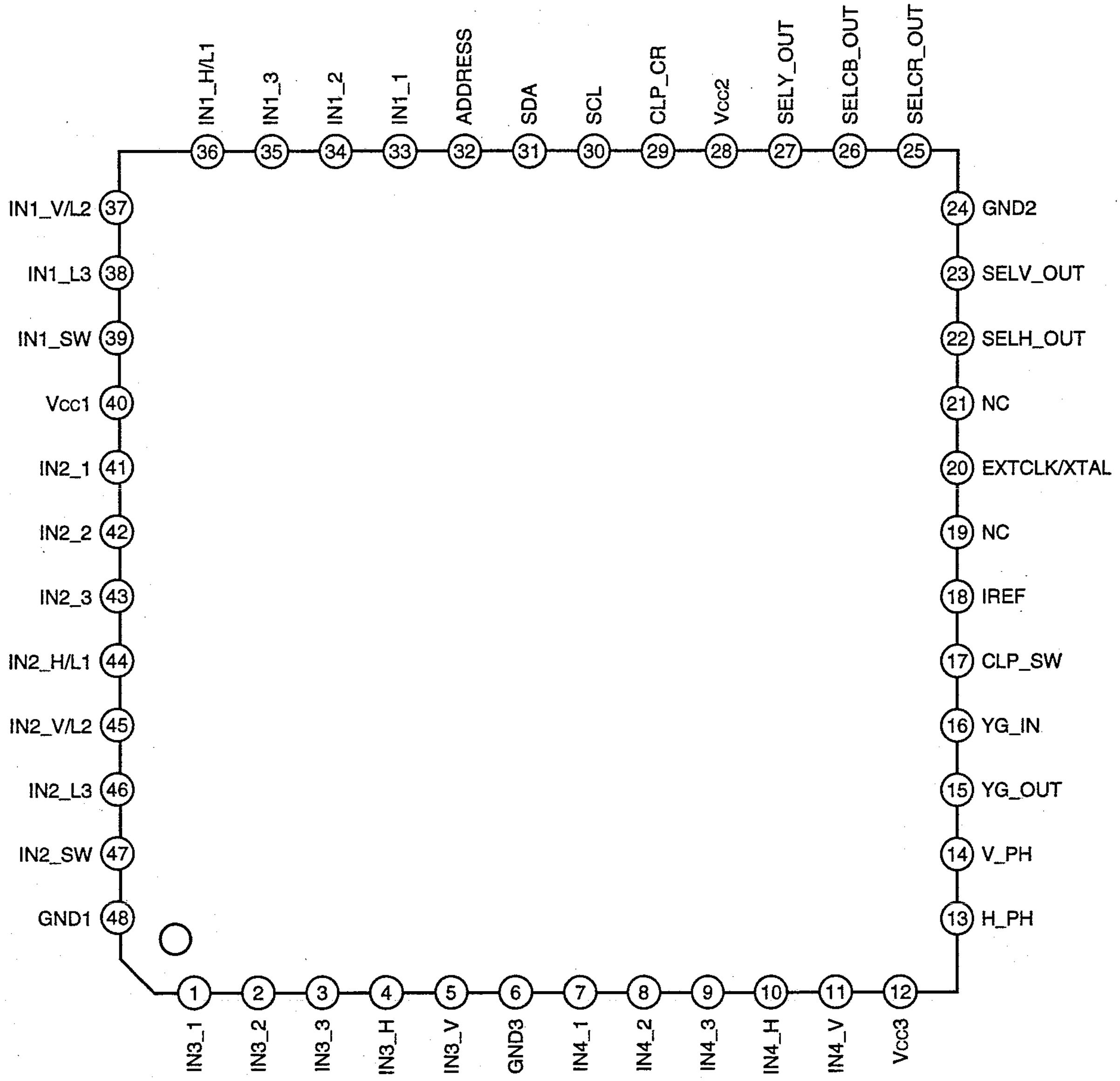
Pin No.	Symbol	Pin voltage	Equivalent circuit	Description
15	VDET		 VREF Vcc Vcc Vcc 100 10k 20k 15 200 200	Video detector output. $\mathrm{I^2C}$ bus VDET off: Output at 0.
16	SDA			$\mathrm{I^2C}$ bus standard SDA (serial data) input/output. VILMAX = 1.5V VIHMIN = 3.5V VOLMAX = 0.4V
17	SCL		 Vcc 4k 17 10k	$\mathrm{I^2C}$ bus standard SCL (serial clock) input. VILMAX = 1.5V VIHMIN = 3.5V
21 20 19 18	R_BKG G_BKG B_BKG G2		 VREG VREG Vcc 100 1k 21 20 19 18 100 1k	BKG/G2 adjustment DAC outputs. The output DC is 1.5 to 5.5V.
22 30	Vcc12	12V		12V power supply

● Pin Function (4/4)

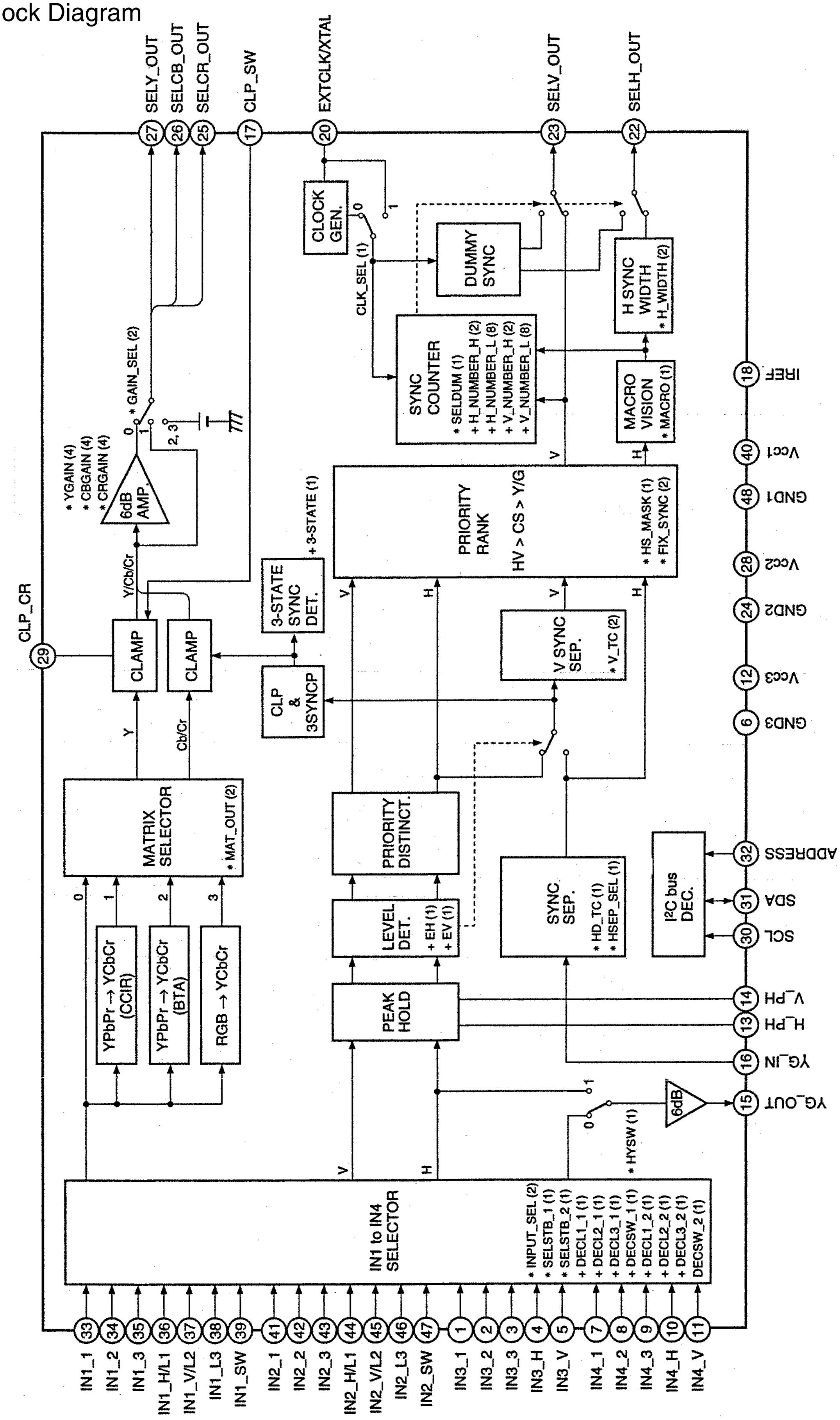
Pin No.	Symbol	Pin voltage	Equivalent circuit	Description
23	VREF	9V	 Vcc12 Vcc12 23 Band Gap	9V regulator. Connect with Vcc12 via a resistor of around 220Ω. It cannot be used as an external power supply.
28 26 24	GND_R GND_G GND_B	0V		GNDs
29 27 25	ROUT GOUT BOUT		 Vcc12 VREG Vcc 29 27 25	R, G and B signal outputs.

■ CXA2171Q (SIGNAL ASSY : IC3901, IC3906)
Video/Sync Selector

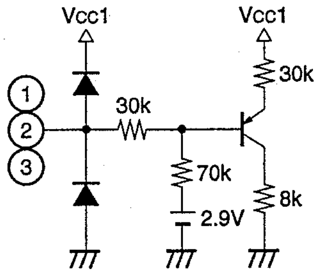
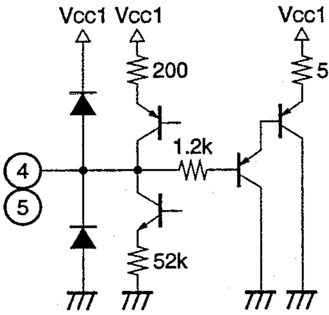
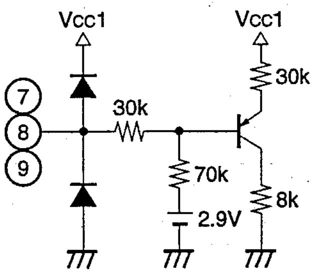
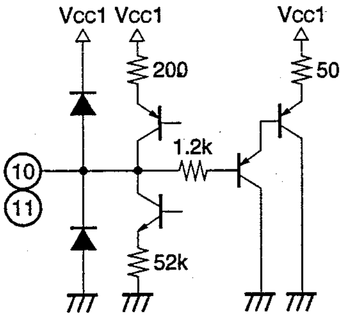
● Pin Assignment (Top view)


IN1_H/L1 36
IN1_3 35
IN1_2 34
IN1_1 33
ADDRESS 32
SDA 31
SCL 30
CLP_CR 29
Vcc2 28
SELY_OUT 27
SELCB_OUT 26
SELCR_OUT 25
GND2 24
SELV_OUT 23
SELH_OUT 22
NC 21
EXTCLK/XTAL 20
NC 19
IREF 18
CLP_SW 17
YG_IN 16
YG_OUT 15
V_PH 14
H_PH 13
IN1_V/L2 37
IN1_L3 38
IN1_SW 39
Vcc1 40
IN2_1 41
IN2_2 42
IN2_3 43
IN2_H/L1 44
IN2_V/L2 45
IN2_L3 46
IN2_SW 47
GND1 48
1 IN3_1
2 IN3_2
3 IN3_3
4 IN3_H
5 IN3_V
6 GND3
7 IN4_1
8 IN4_2
9 IN4_3
10 IN4_H
11 IN4_V
12 Vcc3

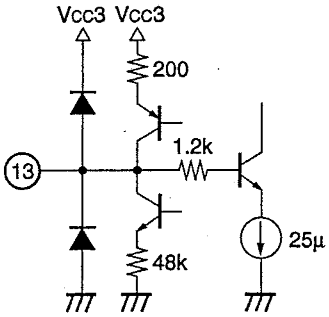
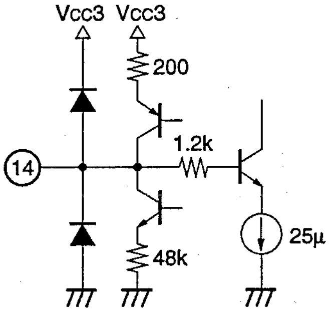
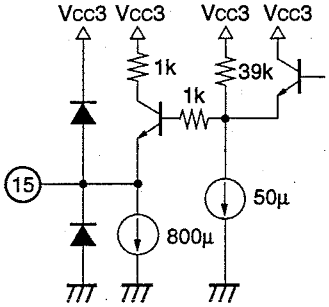
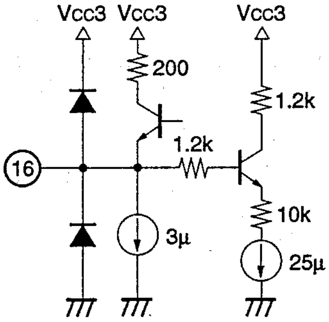
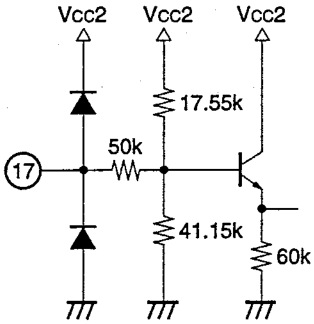
Block Diagram


SELY_OUT
SELCB_OUT
SELCR_OUT
CLP_SW
EXTCLK/XTAL
SELV_OUT
SELH_OUT
CLOCK GEN.
CLK_SEL (1)
DUMMY SYNC
H SYNC WIDTH
* H_WIDTH (2)
SYNC COUNTER
* SELDUM (1)
+ H_NUMBER_H (2)
+ H_NUMBER_L (8)
+ V_NUMBER_H (2)
+ V_NUMBER_L (8)
MACRO VISION
* MACRO (1)
IREF
Vcc1
GND1
Vcc2
GND2
Vcc3
GND3
* GAIN_SEL (2)
* YGAIN (4)
* CBGAIN (4)
* CRGAIN (4)
6dB AMP.
Y/Cb/Cr
CLP_CR
CLAMP
CLAMP
3-STATE SYNC DET.
+ 3-STATE (1)
PRIORITY RANK
HV > CS > Y/G
* HS_MASK (1)
* FIX_SYNC (2)
V SYNC SEP.
* V_TC (2)
CLP & 3SYNCP
MATRIX SELECTOR
* MAT_OUT (2)
Y
Cb/Cr
PRIORITY DISTINCT.
LEVEL DET.
+ EH (1)
+ EV (1)
SYNC SEP.
* HD_TC (1)
* HSEP_SEL (1)
I²C bus DEC.
ADDRESS
SDA
SCL
V_PH
H_PH
YG_IN
YG_OUT
PEAK HOLD
YPbPr → YCbCr (CCIR)
YPbPr → YCbCr (BTA)
RGB → YCbCr
6dB
* HYSW (1)
IN1 to IN4 SELECTOR
* INPUT_SEL (2)
* SELSTB_1 (1)
* SELSTB_2 (1)
+ DECL1_1 (1)
+ DECL2_1 (1)
+ DECL3_1 (1)
+ DECSW_1 (1)
+ DECL1_2 (1)
+ DECL2_2 (1)
+ DECL3_2 (1)
DECSW_2 (1)
V
H
IN1_1
IN1_2
IN1_3
IN1_H/L1
IN1_V/L2
IN1_L3
IN1_SW
IN2_1
IN2_2
IN2_3
IN2_H/L1
IN2_V/L2
IN2_L3
IN2_SW
IN3_1
IN3_2
IN3_3
IN3_H
IN3_V
IN4_1
IN4_2
IN4_3
IN4_H
IN4_V
33 34 35 36 37 38 39 41 42 43 44 45 46 47 1 2 3 4 5 7 8 9 10 11
27 26 25 17 20 23 22 18 40 48 28 24 12 6 32 31 30 14 13 16 15 29
0 1 2 3
2, 3

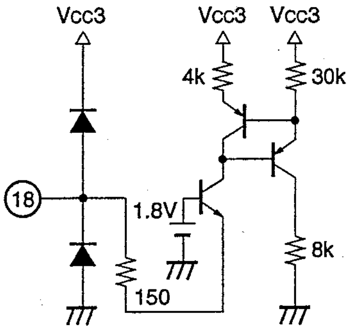
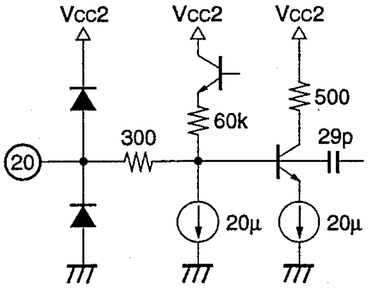
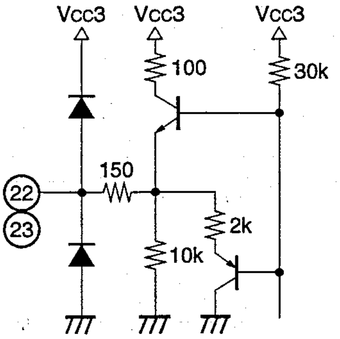
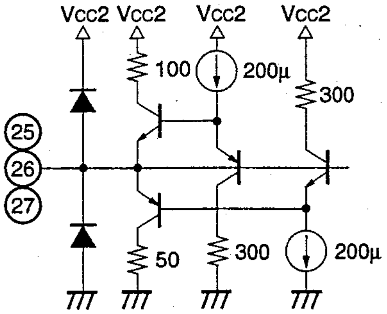
● Pin Function (1/6)

Pin No.	Symbol	Equivalent circuit	Description
1 2 3	IN3_1 IN3_2 IN3_3	 Vcc1 Vcc1 30k ① ② ③ 30k 70k 8k 2.9V	IN3 system signal input. Input via a capacitor. The pin voltage is biased to 2.9V. Use an input Y level of 0.7Vp-p, and a color difference input level of 0.7Vp-p (100% color bar). For Sync on Y and Sync on Green, input at a sync level of 0.3Vp-p. IN3_1: Cr/Pr/R signal input IN3_2: Cb/Pb/B signal input IN3_3: Y/YHD/G signal input
4 5	IN3_H IN3_V		IN3_H: Independent H sync or CS input. IN3_V: Independent V sync signal input. Input via a clamping capacitor. The bottom level is clamped at 1V. These pins support both positive and negative polarity. Input at the following levels. 0.4Vp-p < IN3_H < 4Vp-p 0.4Vp-p < IN3_V < 4Vp-p
6	GND3		Sync signal GND.
7 8 9	IN4_1 IN4_2 IN4_3	 Vcc1 Vcc1 30k ⑦ ⑧ ⑨ 30k 70k 8k 2.9V	IN4 system signal input. Input via a capacitor. The pin voltage is biased to 2.9V. Use an input Y level of 0.7Vp-p, and a color difference input level of 0.7Vp-p (100% color bar). For Sync on Y and Sync on Green, input at a sync level of 0.3Vp-p IN4_1: Cr/Pr/R signal input IN4_2: Cb/Pb/B signal input IN4_3: Y/YHD/G signal input
10 11	IN4_H IN4_V		IN4_H: Independent H sync or CS input. IN4_V: Independent V sync signal input. Input via a clamping capacitor. The bottom level is clamped at 1V. These pins support both positive and negative polarity. Input at the following levels. 0.4Vp-p < IN4_H < 4Vp-p 0.4Vp-p < IN4_V < 4Vp-p
12	Vcc3		Sync signal power supply.

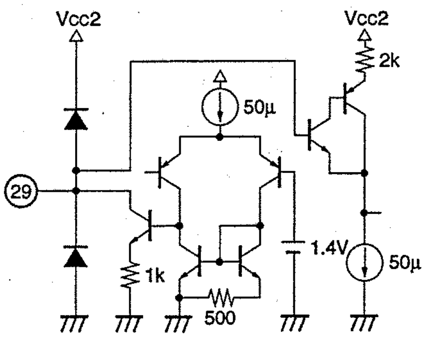
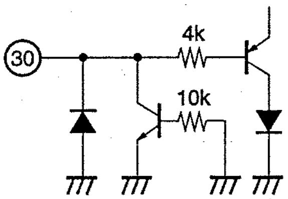
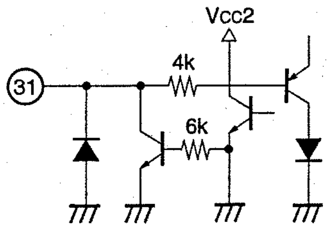
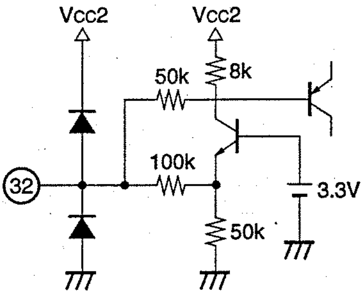
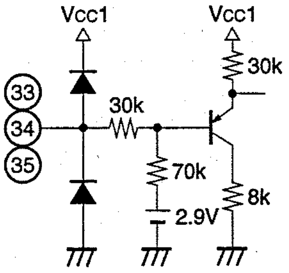
● Pin Function (2/6)

Pin No.	Symbol	Equivalent circuit	Description
13	H_PH	 Vcc3 Vcc3 200 1.2k 13 25μ 48k	Connects a capacitor for peak hold of Hsync.
14	V_PH	 Vcc3 Vcc3 200 1.2k 14 25μ 48k	Connects a capacitor for peak hold of Vsync.
15	YG_OUT	 Vcc3 Vcc3 Vcc3 Vcc3 1k 39k 1k 15 50μ 800μ	Composite video signal output for sync separation. The signal selected by HYSW of the I²C bus is amplified by approximately 6dB and output.
16	YG_IN	 Vcc3 Vcc3 Vcc3 200 1.2k 1.2k 16 10k 3μ 25μ	Composite video signal input for sync separation. Normally inputs the signal output from Pin 15 via a clamping capacitor. The sync tip is clamped at 2.3V. Input at a sync level of 0.5 to 0.6Vp-p.
17	CLP_SW	 Vcc2 Vcc2 Vcc2 17.55k 50k 17 41.15k 60k	Input of pulse for switching clamp circuit operation of Y signal block. (For details, refer to "Notes on Operation".)

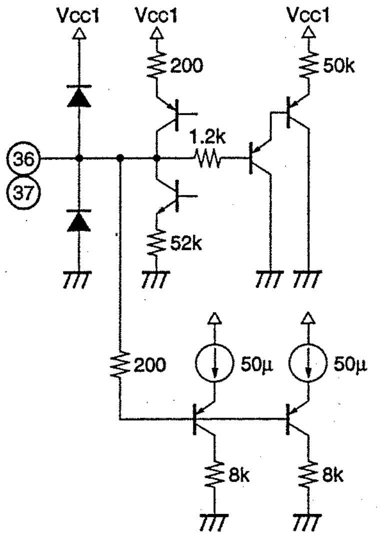
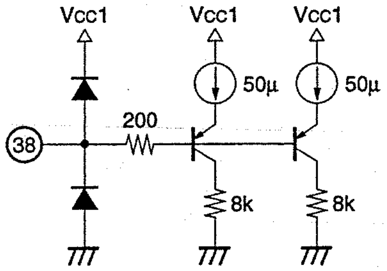
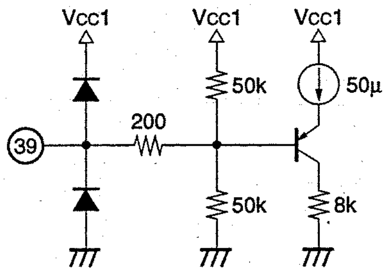
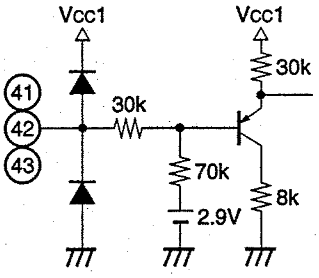
● Pin Function (3/6)

<table>
<tr><th>Pin No.</th><th>Symbol</th><th>Equivalent circuit</th><th>Description</th></tr>
<tr><td>18</td><td>IREF</td><td>

Vcc3
Vcc3
Vcc3
4k
30k
18
1.8V
8k
150
</td><td>Sets the reference current within the IC (sync signal processing block).
Connect a 10kΩ resistor (metallic film resistor) having an error of 1% or less to GND.
The pin voltage is approximately 1V.</td></tr>
<tr><td>19</td><td>NC</td><td></td><td>No connect.</td></tr>
<tr><td>20</td><td>EXTCLK/
XTAL</td><td>

Vcc2
Vcc2
Vcc2
500
60k
300
29p
20
20μ
20μ
</td><td>Switches the reference clock for the sync counter.
When using the internal VCO, set CLK_SEL of the I²C bus to “0” and connect a 4MHz crystal oscillator or ceramic oscillator.
When inputting an external 4MHz clock, set CLK_SEL of the I²C bus to “1”.</td></tr>
<tr><td>21</td><td>NC</td><td></td><td>No connect.</td></tr>
<tr><td>22
23</td><td>SELH_OUT
SELV_OUT</td><td>

Vcc3
Vcc3
Vcc3
100
30k
150
22
23
2k
10k
</td><td>IN1 to IN4 selector HV output.
$V_{OH} > 3.5V$
$V_{OL} < 0.5V$</td></tr>
<tr><td>24</td><td>GND2</td><td></td><td>Video signal GND.</td></tr>
<tr><td>25
26
27</td><td>SELCR_OUT
SELCB_OUT
SELY_OUT</td><td>

Vcc2
Vcc2
Vcc2
Vcc2
100
200μ
300
25
26
27
50
300
200μ
</td><td>IN1 to IN4 selector output.
The YCbCr converted signal is output.
When GAIN_SEL of the I²C bus is set to “0”, the output level is equivalent to 6dB of the input level.</td></tr>
<tr><td>28</td><td>Vcc2</td><td></td><td>Video signal power supply.</td></tr>
</table>

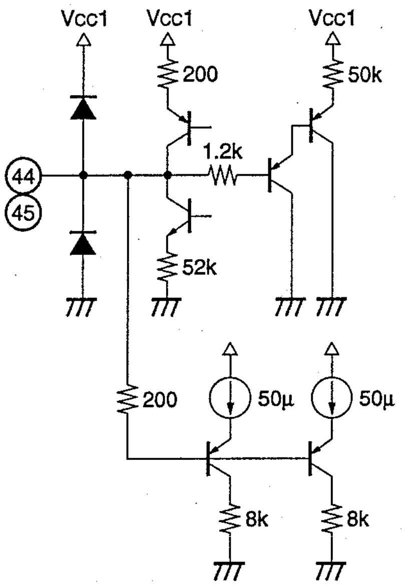
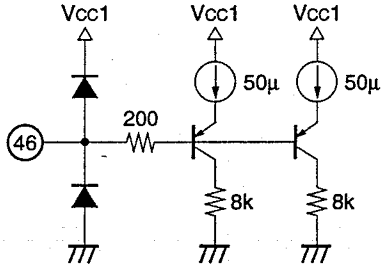
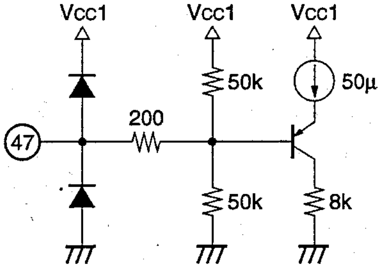
Pin Function (4/6)

Pin No.	Symbol	Equivalent circuit	Description
29	CLP_CR	 Vcc2 Vcc2 2k 50µ 29 1.4V 50µ 1k 500	Diode clamp time constant pin. The minimum potential of the signals is clamped to 1.4V.
30	SCL		I²C bus protocol SCL (Serial Clock) input.
31	SDA	 Vcc2 31 4k 6k	I²C bus protocol SDA (Serial Data) input.
32	ADDRESS	 Vcc2 Vcc2 8k 50k 100k 32 3.3V 50k	Sets the I²C bus slave address. 8Eh: 4V or more 8Ch: Open 84h: 1.5V or less
33 34 35	IN1_1 IN1_2 IN1_3	 Vcc1 Vcc1 30k 33 34 35 30k 70k 2.9V 8k	IN1 system signal input. Input via a capacitor. The pin voltage is biased to 2.9V. Use an input Y level of 0.7Vp-p, and a color difference input level of 0.7Vp-p (100% color bar). For Sync on Y and Sync on Green, input at a sync level of 0.3Vp-p. IN1_1: Cr/Pr/R signal input IN1_2: Cb/Pb/B signal input IN1_3: Y/YHD/G signal input

● Pin Function (5/6)

Pin No.	Symbol	Equivalent circuit	Description
36 37	IN1_H/L1 IN1_V/L2	 Vcc1 Vcc1 Vcc1 200 50k 1.2k 36 37 52k 200 50μ 50μ 8k 8k	IN1_H: Independent H sync or CS input. IN1_V: Independent V sync signal input. Input via a clamping capacitor. The bottom level is clamped at 1V. These pins support both positive and negative polarity. Input at the following levels. 0.4Vp-p < IN1_H < 4Vp-p 0.4Vp-p < IN1_V < 4Vp-p Also, when SELSTB_1 of the I^2C bus is set to "1", these pins function as the D3 pin control line 1 and 2 inputs. The input DC level is returned by ternary value to status registers DECL1_1 and DECL2_1.
38	IN1_L3	 Vcc1 Vcc1 Vcc1 50μ 50μ 200 38 8k 8k	D3 pin control line 3 input. When SELSTB_1 of the I^2C bus is set to "1", the input DC level is returned by ternary value to status register DECL3_1.
39	IN1_SW	 Vcc1 Vcc1 Vcc1 50k 50μ 200 39 50k 8k	D3 pin switch line input. When SELSTB_1 of the I^2C bus is set to "1", the input DC level is returned by binary value to status register DECSW_1.
40	Vcc1		Input selector power supply.
41 42 43	IN2_1 IN2_2 IN2_3	 Vcc1 Vcc1 30k 41 42 43 30k 70k 8k 2.9V	IN2 system signal input. Input via a capacitor. The pin voltage is biased to 2.9V. Use an input Y level of 0.7Vp-p, and a color difference input level of 0.7Vp-p (100% color bar). For Sync on Y and Sync on Green, input at a sync level of 0.3Vp-p. IN2_1: Cr/Pr/R signal input IN2_2: Cb/Pb/B signal input IN2_3: Y/Y_{HD}/G signal input

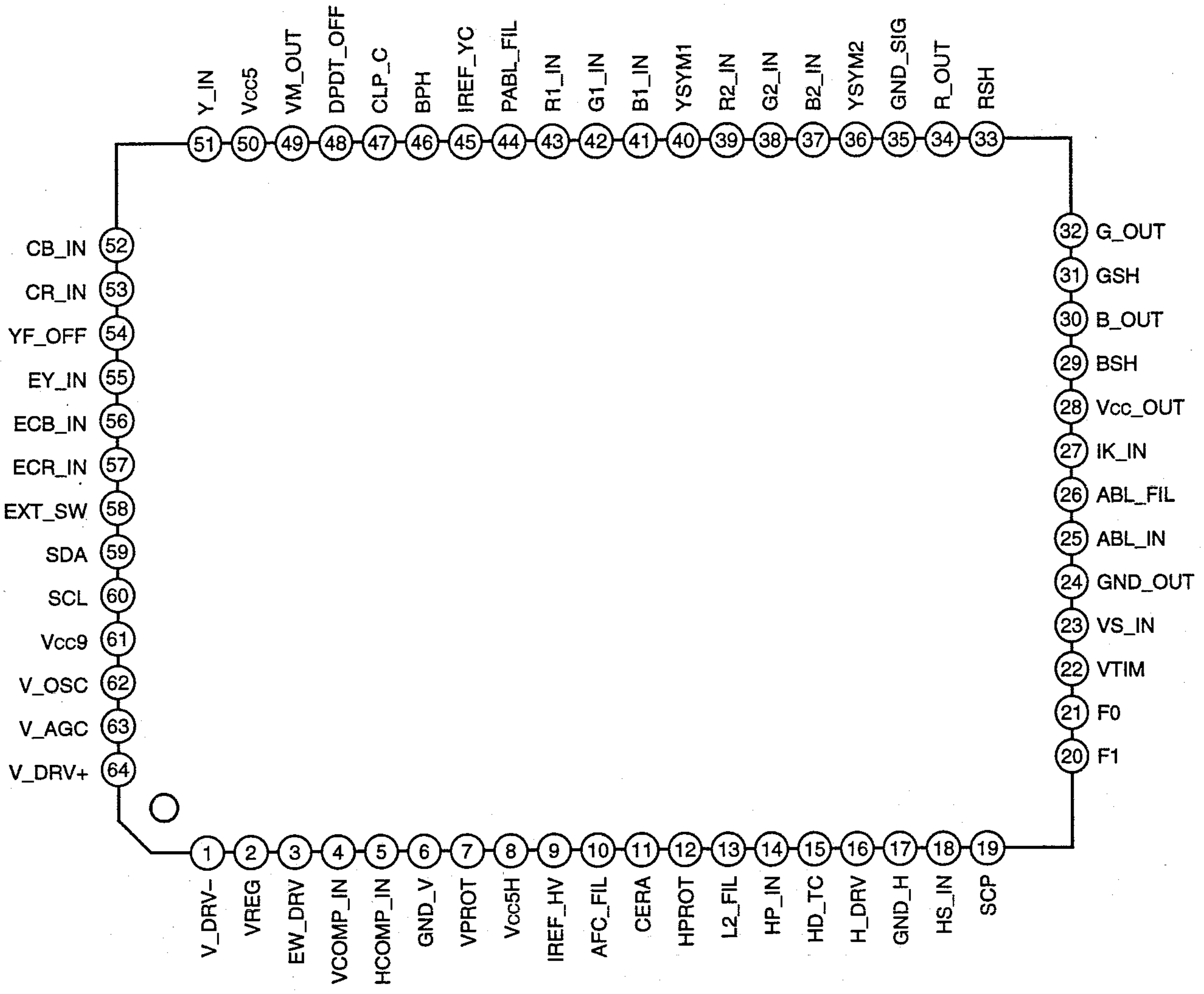
● Pin Function (6/6)

Pin No.	Symbol	Equivalent circuit	Description
44 45	IN2_H/L1 IN2_V/L2	 Vcc1 Vcc1 Vcc1 200 50k 1.2k 44 45 52k 200 50µ 50µ 8k 8k	IN2_H: Independent H sync or CS input. IN2_V: Independent V sync signal input. Input via a clamping capacitor. The bottom level is clamped at 1V. These pins support both positive and negative polarity. Input at the following levels. 0.4Vp-p < IN2_H < 4Vp-p 0.4Vp-p < IN2_V < 4Vp-p Also, when SELSTB_2 of the I^{2}C bus is set to "1", these pins function as the D3 pin control line 1 and 2 inputs. The input DC level is returned by ternary value to status registers DECL1_2 and DECL2_2.
46	IN2_L3	 Vcc1 Vcc1 Vcc1 50µ 50µ 200 46 8k 8k	D3 pin control line 3 input. When SELSTB_2 of the I^{2}C bus is set to "1", the input DC level is returned by ternary value to status register DECL3_2.
47	IN2_SW	 Vcc1 Vcc1 Vcc1 50k 50µ 200 47 50k 8k	D3 pin switch line input. When SELSTB_2 of the I^{2}C bus is set to "1", the input DC level is returned by binary value to status register DECSW_2.
48	GND1		Input selector GND.

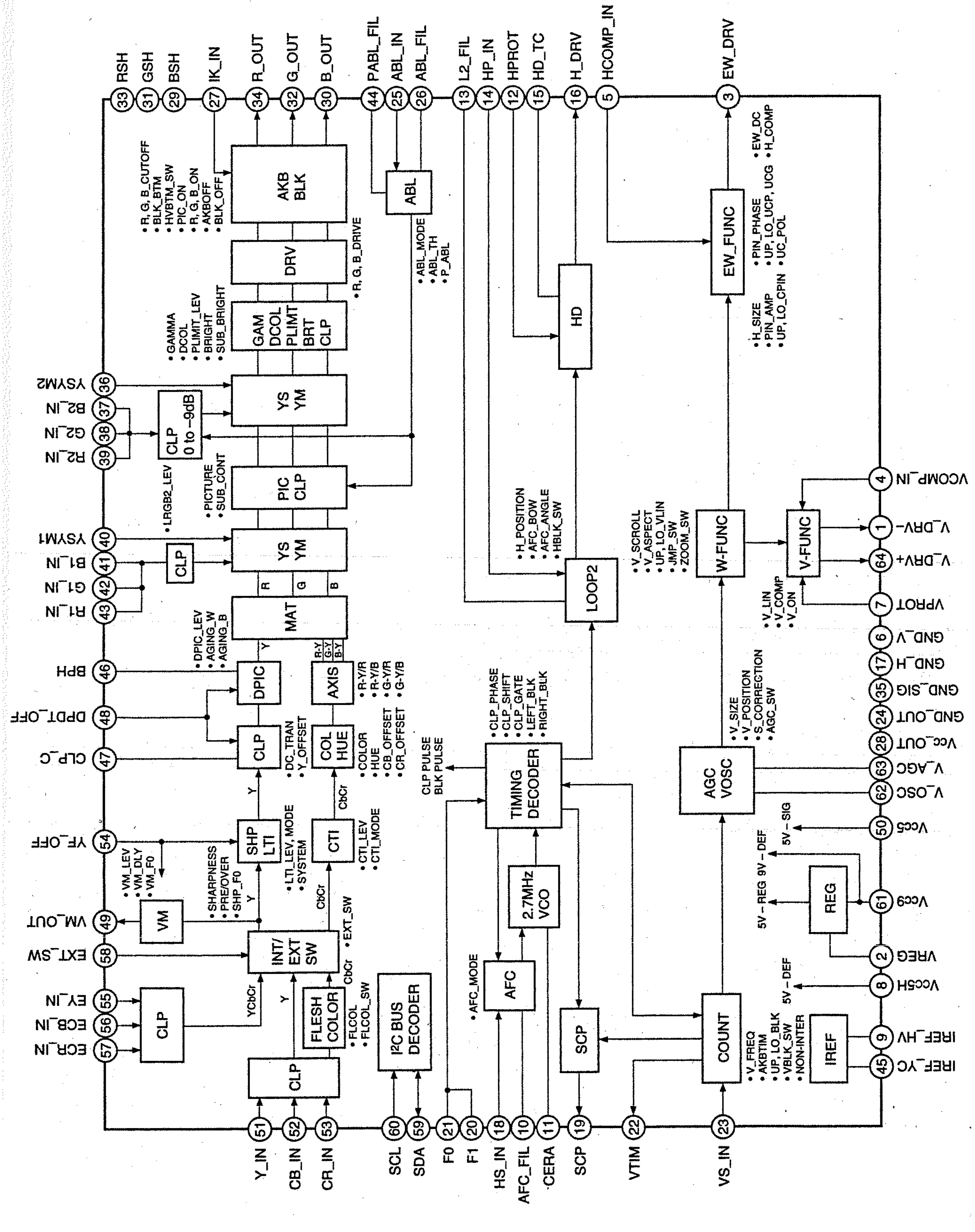
■ CXA2180Q (VIDEO UCOM SERVICE ASSY : IC4608)

CRT Driver

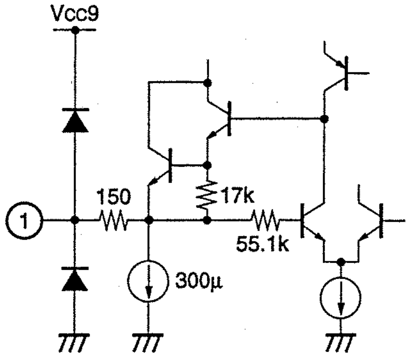
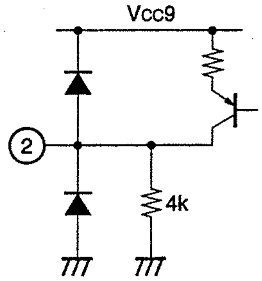
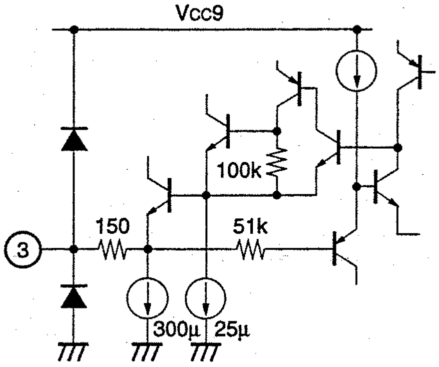
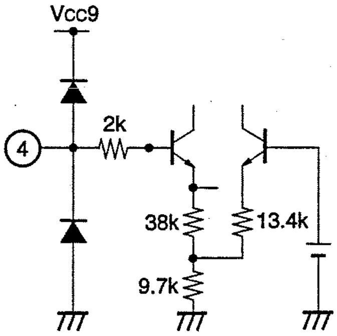
● Pin Assignment (Top view)


Y_IN 51
Vcc5 50
VM_OUT 49
DPDT_OFF 48
CLP_C 47
BPH 46
IREF_YC 45
PABL_FIL 44
R1_IN 43
G1_IN 42
B1_IN 41
YSYM1 40
R2_IN 39
G2_IN 38
B2_IN 37
YSYM2 36
GND_SIG 35
R_OUT 34
RSH 33
G_OUT 32
GSH 31
B_OUT 30
BSH 29
Vcc_OUT 28
IK_IN 27
ABL_FIL 26
ABL_IN 25
GND_OUT 24
VS_IN 23
VTIM 22
F0 21
F1 20
CB_IN 52
CR_IN 53
YF_OFF 54
EY_IN 55
ECB_IN 56
ECR_IN 57
EXT_SW 58
SDA 59
SCL 60
Vcc9 61
V_OSC 62
V_AGC 63
V_DRV+ 64
1 V_DRV-
2 VREG
3 EW_DRV
4 VCOMP_IN
5 HCOMP_IN
6 GND_V
7 VPROT
8 Vcc5H
9 IREF_HV
10 AFC_FIL
11 CERA
12 HPROT
13 L2_FIL
14 HP_IN
15 HD_TC
16 H_DRV
17 GND_H
18 HS_IN
19 SCP

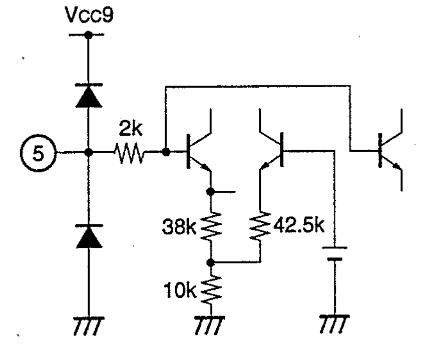
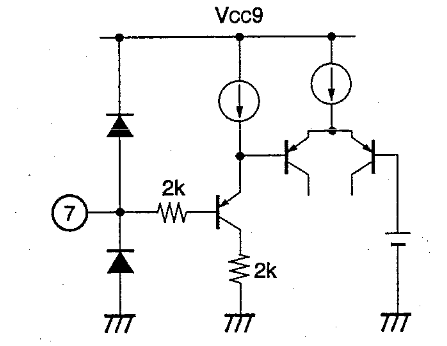
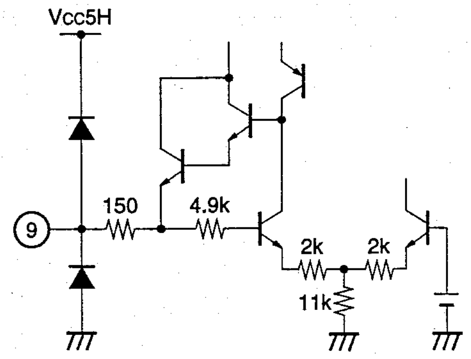
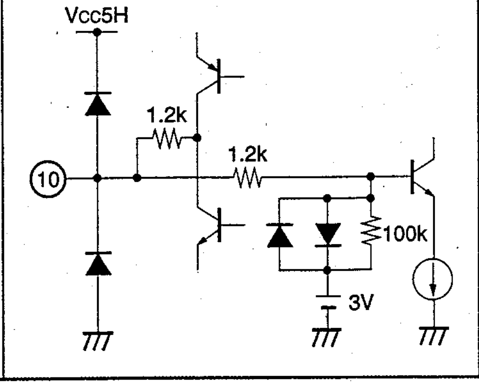
Block Diagram


33 RSH
31 GSH
29 BSH
27 IK_IN
34 R_OUT
32 G_OUT
30 B_OUT
44 PABL_FIL
25 ABL_IN
26 ABL_FIL
13 L2_FIL
14 HP_IN
12 HPROT
15 HD_TC
16 H_DRV
5 HCOMP_IN
3 EW_DRV
AKB BLK
• R, G, B_CUTOFF • BLK_BTM • HVBTM_SW • PIC_ON • R, G, B_ON • AKBOFF • BLK_OFF
ABL
• ABL_MODE • ABL_TH • P_ABL
DRV
• R, G, B_DRIVE
GAM DCOL PLIMT BRT CLP
• GAMMA • DCOL • PLIMIT_LEV • BRIGHT • SUB_BRIGHT
HD
EW_FUNC
• EW_DC • H_COMP
• PIN_PHASE • UP, LO_UCP, UCG • UC_POL
• H_SIZE • PIN_AMP • UP, LO_CPIN
36 YSYM2
37 B2_IN
38 G2_IN
39 R2_IN
YS YM
CLP 0 to –9dB
• LRGB2_LEV
PIC CLP
• PICTURE • SUB_CONT
40 YSYM1
41 B1_IN
42 G1_IN
43 R1_IN
CLP
YS YM
R G B
MAT
Y
• DPIC_LEV • AGING_W • AGING_B
R-Y G-Y B-Y
46 BPH
DPIC
AXIS
• R-Y/R • R-Y/B • G-Y/R • G-Y/B
48 DPDT_OFF
47 CLP_C
CLP
• DC_TRAN • Y_OFFSET
COL HUE
• COLOR • HUE • CB_OFFSET • CR_OFFSET
Y
CbCr
54 YF_OFF
SHP LTI
• LTI_LEV, MODE • SYSTEM
CTI
• CTI_LEV • CTI_MODE
• VM_LEV • VM_DLY • VM_F0
• SHARPNESS • PRE/OVER • SHP_F0
49 VM_OUT
VM
Y
CbCr
58 EXT_SW
INT/ EXT SW
• EXT_SW
55 EY_IN
56 ECB_IN
57 ECR_IN
CLP
YCbCr
Y
CbCr
FLESH COLOR
• FLCOL • FLCOL_SW
CLP
I2C BUS DECODER
51 Y_IN
52 CB_IN
53 CR_IN
60 SCL
59 SDA
21 F0
20 F1
18 HS_IN
10 AFC_FIL
11 CERA
19 SCP
22 VTIM
23 VS_IN
• H_POSITION • AFC_BOW • AFC_ANGLE • HBLK_SW
LOOP2
• CLP_PHASE • CLP_SHIFT • CLP_GATE • LEFT_BLK • RIGHT_BLK
CLP PULSE BLK PULSE
TIMING DECODER
2.7MHz VCO
AFC
• AFC_MODE
SCP
COUNT
• V_FREQ • AKBTIM • UP, LO_BLK • VBLK_SW • NON-INTER
IREF
• V_SCROLL • V_ASPECT • UP, LO_VLIN • JMP_SW • ZOOM_SW
W-FUNC
V-FUNC
• V_LIN • V_COMP • V_ON
AGC VOSC
• V_SIZE • V_POSITION • S_CORRECTION • AGC_SW
REG
5V – SIG
5V – REG 9V – DEF
5V – DEF
4 VCOMP_IN
1 V_DRV–
64 V_DRV+
7 VPROT
6 GND_V
17 GND_H
35 GND_SIG
24 GND_OUT
28 Vcc_OUT
63 V_AGC
62 V_OSC
50 Vcc5
61 Vcc9
2 VREG
8 Vcc5H
9 IREF_HV
45 IREF_YC

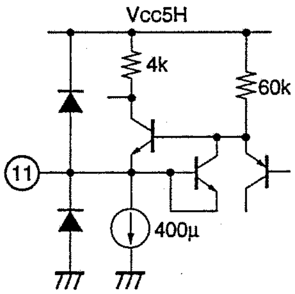
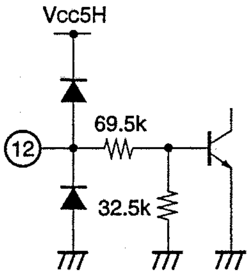
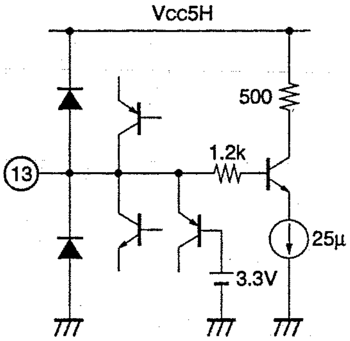
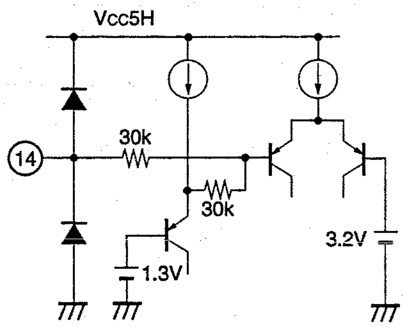
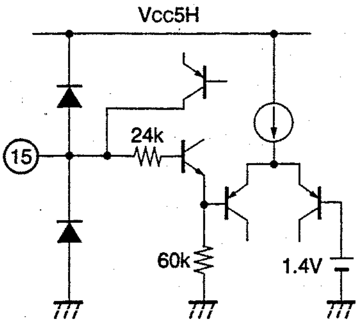
● Pin Function (1/11)

Pin No.	Symbol	Equivalent circuit	Description
1	V_DRV–	 Vcc9 150 17k 55.1k 300µ 1	V sawtooth wave output. * Allowable load current: –0.3 to +1.7mA
2	VREG		IC internal regulator decoupling capacitor. Connect a capacitor of 10µF between Pin 2 and GND.
3	EW_DRV	 Vcc9 100k 150 51k 300µ 25µ 3	V parabola wave output. This is used to compensate the horizontal amplitude and the horizontal pin distortion. * Allowable load current: –0.2 to +2.6mA
4	VCOMP_IN	 Vcc9 2k 38k 13.4k 9.7k 4	Voltage input for high voltage fluctuation compensation. High voltage compensation is performed for the V_DRV signal amplitude. The control characteristics can be varied by V_COMP. * Input voltage range: 0 to 5V

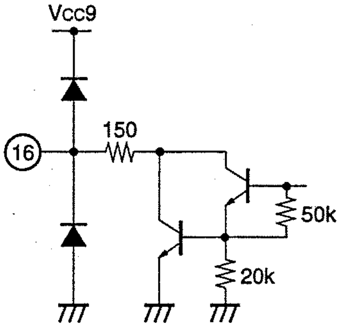
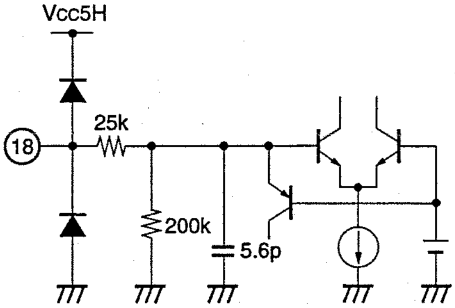
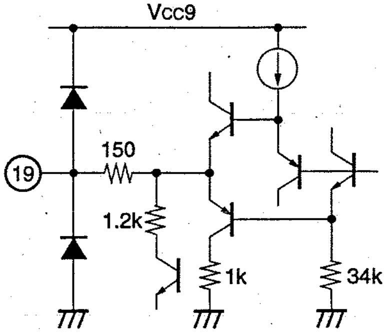
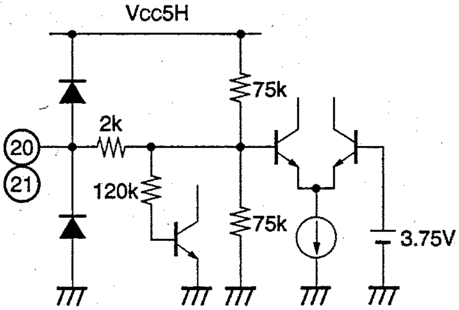
● Pin Function (2/11)

Pin No.	Symbol	Equivalent circuit	Description
5	HCOMP_IN		Voltage input for high voltage fluctuation compensation. High voltage compensation is performed for the EW_DRV signal DC amplitude. The control characteristics can be varied by H_COMP. * Input voltage range: 0 to 5V
6	GND_V		GND for V deflection system.
7	VPROT		V protect input. When the protect function operates, the R, G and B outputs are completely blanked and "1" is output to the status register VNG. See Fig. 10 on page 55 for the input conditions.
8	Vcc5H		Power supply for H driver deflection system.
9	IREF_HV		Reference current setting for H, V deflection systems. A 10kΩ resistor with an error of less than 1% (such as a metal film resistor) is connected between this pin and GND.
10	AFC_FIL		AFC lag-lead filter. Connect the RC for the lag-lead filter.

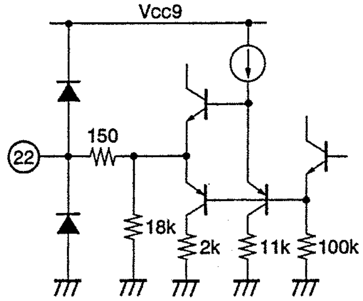
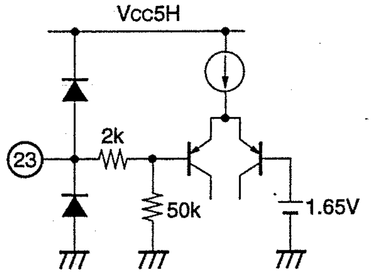
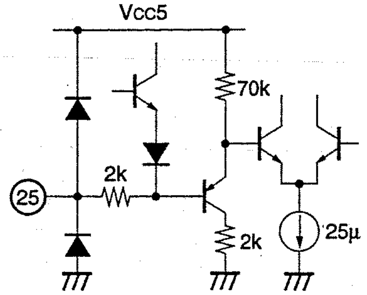
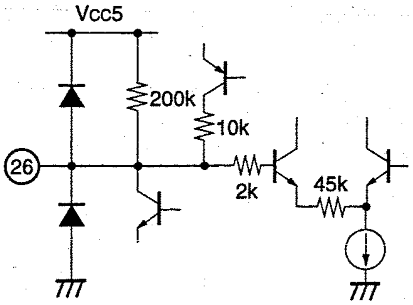
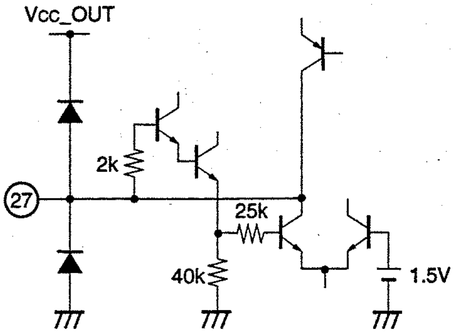
● Pin Function (3/11)

Pin No.	Symbol	Equivalent circuit	Description
11	CERA		Connect a 2.7MHz ceramic oscillator.
12	HPROT		HD output hold-down signal input. When this pin is 2V or more for a 7V cycle or longer, the hold-down function operates so that the HD output is held to High Z. In addition, the R, G and B outputs are completely blanked and "1" is output to the status register HNG. To cancel this status, turn the IC power off and then on again.
13	L2_FIL		Filter for AFC 2nd loop. Connect to GND via a capacitor. The AFC phase can also be controlled from this pin by leading current in and out of this capacitor. As the pin voltage rises, the picture shifts to the right. As the pin voltage falls, the picture shifts to the left.
14	HP_IN		H deflection pulse input for H AFC. Input low level = 0V and high level = 5V pulse directly or a 5Vp-p pulse via an approximately 0.1µF capacitor.
15	HD_TC		Generate the pulse which complements the omission of the HD signal caused by surge during the electrostatic test and others.

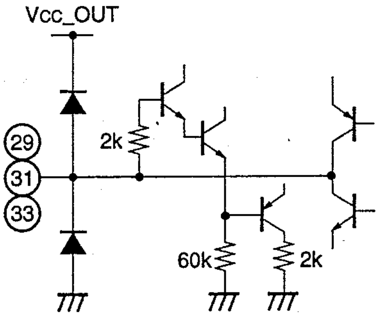
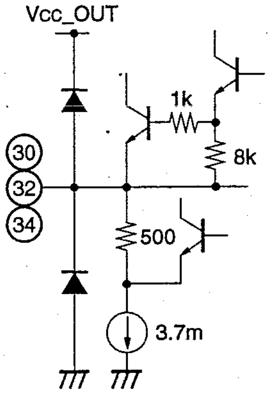
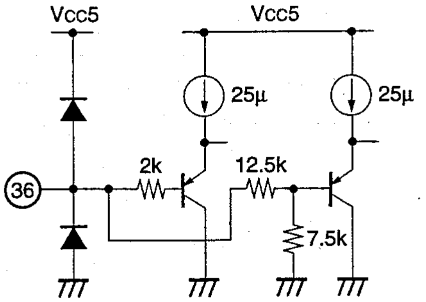
● Pin Function (4/11)

Pin No.	Symbol	Equivalent circuit	Description
16	H_DRV	 Vcc9 16 150 50k 20k	H drive signal output. This pin is output by an open collector. Set high level to 5V.
17	GND_H		GND for H deflection system.
18	HS_IN	 Vcc5H 18 25k 200k 5.6p	HSYNC input. Input at the sync phase. Positive polarity input $V_{IH} \geq 2.6V$ $V_{IL} \leq 0.6V$ * Input DC coupled.
19	SCP	 Vcc9 19 150 1.2k 1k 34k	Sand castle pulse output. The approximately 0 to 5V CLP pulse is output superimposed on the approximately 0 to 2.5V HBLK and VBLK pulses. * Allowable load current: –0.5 to +2mA
20 21	F1 F0	 Vcc5H 20 21 2k 120k 75k 75k 3.75V	Horizontal free-running frequency setting.

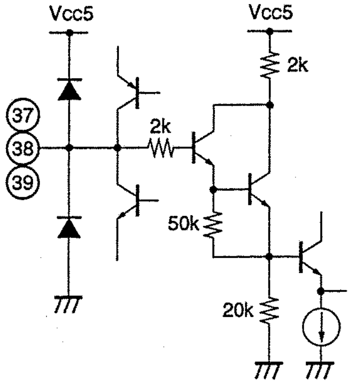
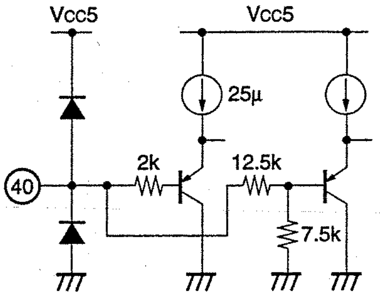
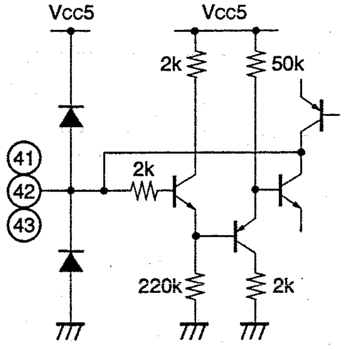
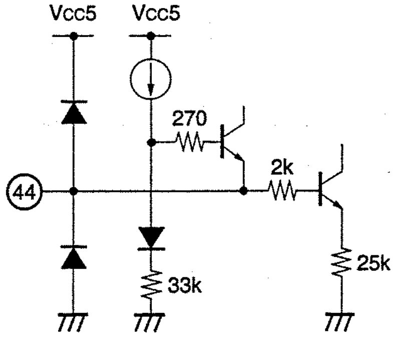
● Pin Function (5/11)

Pin No.	Symbol	Equivalent circuit	Description
22	VTIM	 Vcc9 22 150 18k 2k 11k 100k	V timing pulse output. Positive polarity pulses from 0 to 5V. This pin corresponds to VBLK position of RGB output during high period.
23	VS_IN	 Vcc5H 23 2k 50k 1.65V	VSYNC input. Input at the sync phase. Positive polarity input $V_{IH} \geq 2.6V$ $V_{IL} \leq 0.6V$ * Input DC coupled.
24	GND_OUT		GND for RGB_OUT output stage.
25	ABL_IN	 Vcc5 70k 25 2k 2k 25μ	ABL control signal input. This pin functions as the average value. The ABL_IN threshold voltage can be varied by the I²C bus ABL_TH. * Input voltage range: 0 to 5V
26	ABL_FIL	 Vcc5 200k 10k 26 2k 45k	Connect a capacitor to form the LPF for the ABL_IN input signal.
27	IK_IN	 Vcc_OUT 2k 27 25k 40k 1.5V	The reference pulses are returned to this pin. The CRT cathode current IK is converted to a voltage and input via a capacitor. This signal is clamped to 2.8V at the V retrace timing of the V blanking. * Input voltage range: less than 5V

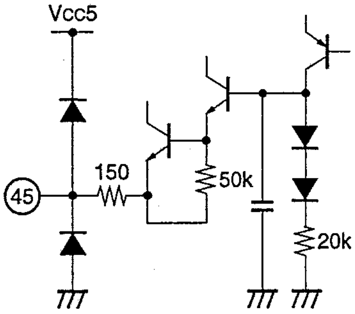
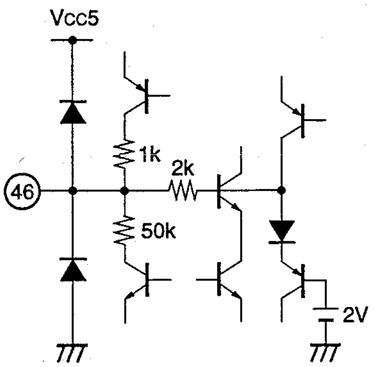
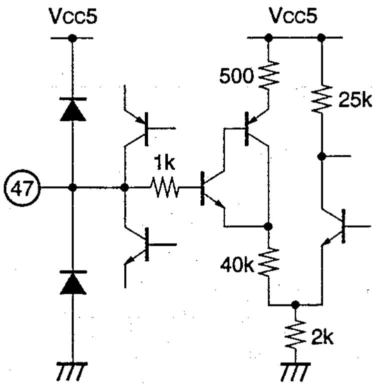
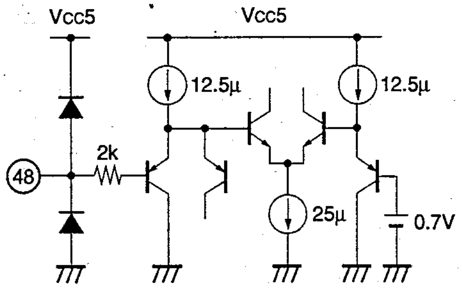
Pin Function (6/11)

Pin No.	Symbol	Equivalent circuit	Description
28	Vcc_OUT		Power supply for RGB_OUT output stage.
29 31 33	BSH GSH RSH	 Vcc_OUT 29 31 33 2k 60k 2k	RGB AKB sample-and-hold. Connect to GND via a capacitor. When AKB is not used, the RGB DC level can be set by applying DC to each pin.
30 32 34	B_OUT G_OUT R_OUT	 Vcc_OUT 1k 8k 30 32 34 500 3.7m	R, G and B signal outputs. A 2.6Vp-p signal is output at 100 IRE. * Allowable load current: –3.7 to +5mA
35	GND_SIG		GND for Y/color difference and RGB systems.
36	YSYM2	 Vcc5 Vcc5 25μ 25μ 36 2k 12.5k 7.5k	YS2/YM2 control input. When the input level reaches the YM level, VM is OFF. <YS2SW> YS2: ON V_{IH} ≥ 2.3V RGB2_IN selected YS2: OFF V_{IL} ≤ 1.5V Internal RGB signal selected <YM2SW> YM2: ON V_{IH} ≥ 0.9V Internal RGB signal set to –9.5dB YM2: OFF V_{IL} ≤ 0.5V Internal RGB signal passed at 0dB * Input voltage range: 0 to 5V

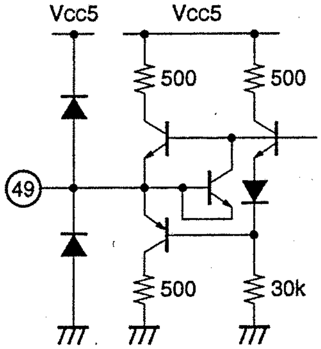
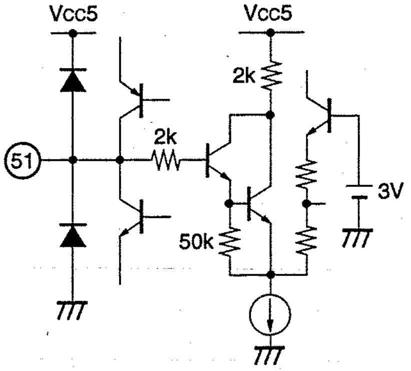
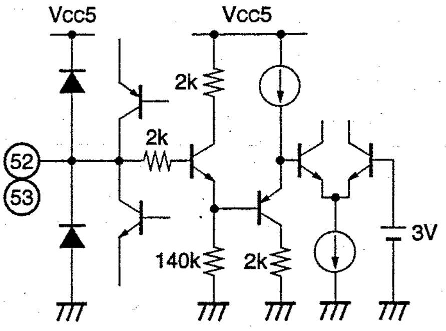
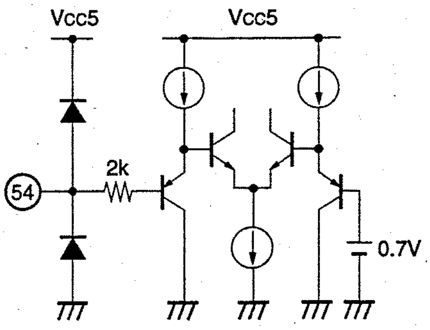
● Pin Function (7/11)

Pin No.	Symbol	Equivalent circuit	Description
37 38 39	B2_IN G2_IN R2_IN	 Vcc5 Vcc5 2k 37 38 39 2k 50k 20k	Analog R2, G2 and B2 signal inputs. Input a 0.7Vp-p, 100 IRE (no sync) signal via a capacitor. The pedestal is clamped to 3.3V. * Input voltage range: less than 5V
40	YSYM1	 Vcc5 Vcc5 25μ 2k 12.5k 40 7.5k	YS1/YM1 control input. When the input level reaches the YM level, VM is OFF. <YS1SW> YS1: ON VIH ≥ 2.3V RGB1_IN selected YS1: OFF VIL ≤ 1.5V Internal RGB signal selected <YM1SW> YM1: ON VIH ≥ 0.9V Internal RGB signal set to –9.5dB YM1: OFF VIL ≤ 0.5V Internal RGB signal passed at 0dB * Input voltage range: 0 to 5V
41 42 43	B1_IN G1_IN R1_IN	 Vcc5 Vcc5 2k 50k 41 42 43 2k 220k 2k	Analog R1, G1 and B1 signal inputs. Input a 0.7Vp-p, 100 IRE (no sync) signal via a capacitor. The pedestal is clamped to 3.0V. * Input voltage range: less than 5V
44	PABL_FIL	 Vcc5 Vcc5 270 2k 44 25k 33k	Peak hold for peak ABL. A capacitor and resistor are connected between this pin and GND to form a LPF.

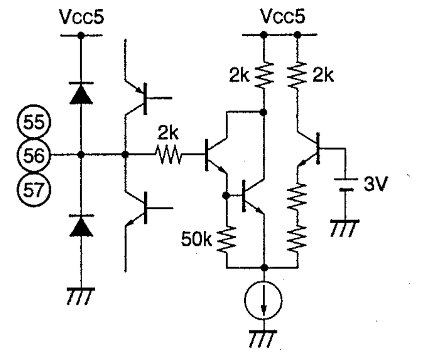
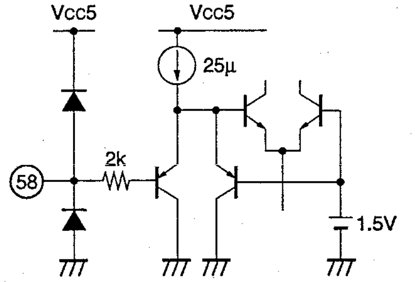
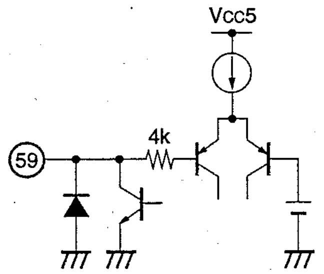
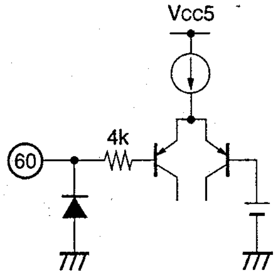
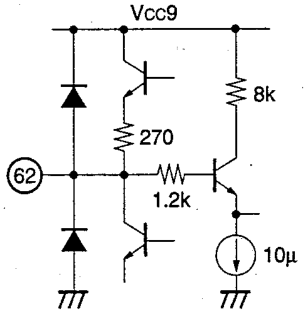
● Pin Function (8/11)

Pin No.	Symbol	Equivalent circuit	Description
45	IREF_YC	 Vcc5 45 150 50k 20k	Reference current setting for Y/color difference signal processing system. Connect to GND via the 4.7kΩ resistor (such as a metal film resistor) with an error of less than 1%.
46	BPH	 Vcc5 46 1k 2k 50k 2V	Connect a capacitor to GND for black detection of the dynamic picture (black expansion).
47	CLP_C	 Vcc5 Vcc5 500 25k 47 1k 40k 2k	Connect a capacitor for Y system clamp. This capacitor also sets the DC transmission ratio.
48	DPDT_OFF	 Vcc5 Vcc5 12.5µ 12.5µ 48 2k 25µ 0.7V	Muting of the dynamic picture operation (black expansion) and DC transmission ratio signal interval detection can be controlled by this pin. MUTE: ON $V_{IH} \geq 1V$ MUTE: OFF $V_{IL} \leq 0.4V$ * Input voltage range: 0 to 5V

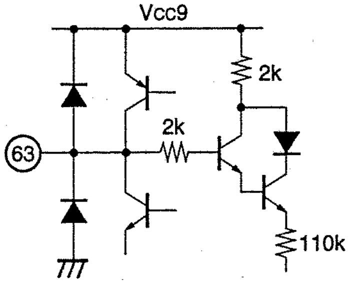
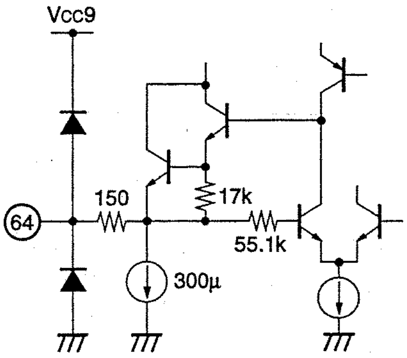
● Pin Function (9/11)

Pin No.	Symbol	Equivalent circuit	Description
49	VM_OUT	 Vcc5 Vcc5 500 500 49 500 30k	VM output. The differential waveforms of the Y signal are output with a positive polarity. The amplitude and phase of this waveform can be adjusted by the I^2C bus. * Allowable load current: –1 to +1mA
50	Vcc5		Power supply for Y/color difference, RGB systems and I^2C bus block.
51	Y_IN	 Vcc5 Vcc5 2k 2k 51 3V 50k	V input. Input a 0.7Vp-p, 100 IRE signal via a capacitor. The pedestal is clamped to 3.5V. * Input voltage range: less than 5V
52 53	CB_IN CR_IN	 Vcc5 Vcc5 2k 2k 52 53 140k 2k 3V	CbCr inputs. Input a 0.7Vp-p, 100 IRE (at 100% color bar) signal via a capacitor. The pedestal is clamped to 3.0V. * Input voltage range: less than 5V
54	YF_OFF	 Vcc5 Vcc5 2k 54 0.7V	For turning off the VM and sharpness. Ternary inputs are supported. VM, SHP : OFF $V_{IH} \geq 1.0V$: ON $V_{IL} \leq 0.4V$ * Input voltage range: 0 to 5V

● Pin Function (10/11)

Pin No.	Symbol	Equivalent circuit	Description
55 56 57	EY_IN ECB_IN ECR_IN	 Vcc5 Vcc5 2k 2k 55 56 57 2k 3V 50k	External Y, Cb and Cr inputs. Input 0.7Vp-p, 100 IRE Y, Cb and Cr signals (when Cb and Cr are at 100% color bar) via a capacitor. The pedestal is clamped to 3.5V. * Input voltage range: less than 5V
58	EXT_SW	 Vcc5 Vcc5 25μ 2k 58 1.5V	Switching of signals input to Pins 51 to 53/55 to 57. External input is selected for high.
59	SDA		I^2C bus protocol SDA (Serial Data) input. $V_{IH} \geq 3V$ $V_{IL} \leq 1.5V$ $V_{OL} \leq 0.6V$
60	SCL		I^2C bus protocol SCL (Serial Clock) input. $V_{IH} \geq 3V$ $V_{IL} \leq 1.5V$
61	Vcc9		Power supply for V deflection system.
62	V_OSC	 Vcc9 8k 270 62 1.2k 10μ	V sawtooth wave generation. Connect to GND via a 0.1μF capacitor. For the capacitor, use a PP (polypropylene) capacitor, or similar capacitor with a small tanδ.

● Pin Function (11/11)

Pin No.	Symbol	Equivalent circuit	Description
63	V_AGC		Sample-and-hold for AGC which maintains the V sawtooth wave at a constant amplitude. Connect to GND via a 0.1µF capacitor.
64	V_DRV+		V sawtooth wave output (opposite polarity of V_DRV–). * Allowable load current: –0.3 to +1.7mA

■ PD5815D8 (VIDEO UCOM SERVICE ASSY : IC1906)

System micro-computer IC

● Pin Function (1/3)

No.	Pin Name	I/O	Pin Function
1	VHOLD1	I	External parts for main CCD standard voltage generating circuits are connected.
2	HLF1	I/O	External parts for main CCD timing signal generating circuits are connected.
3	SCL3	O	SCL signal for CXA1875 (DAC for DVI)
4	SDA3	I/O	SDA signal for CXA1875 (DAC for DVI)
5	(MAINH)	TIM INPUT	HSYNC input for main signal existence distinction
6	(SUBH)	TIM INPUT	HSYNC input for sub signal existence distinction
7	(SUBV)	INT INPUT	VSYNC input for sub signal existence distinction
8	BYTE	I	External data bus width change terminal
9	CNVSS	I	Serial input and output mode change signal input
10	ACLOFF	O	ACL OFF signal output at the time of AUTO ACL.
11	CMUTE	O	Conver mute output
12	RESET	I	Reset input
13	XOUT	O	Output terminal of system clock generating circuit
14	VSS	-	GND
15	XIN	I	Input terminal of system clock generating circuit

Pin Function (2/3)

Pin		I/O	
16	VCCI	I	STB 3.3V
17	OSC1	I	Filter connection for internal clock generating circuits for OSD
18	OSC2	O	Open
19	REM	INT INPUT	SR remote control signal input
20	(MAINV)	INT INPUT	VSYNC input for main signal existence distinction
21	OSDBLK	O	OSD BLK output
22	OSDHALF	O	OSDHALFoutput
23	HS1	TIM INPUT	Level synchronous count input for tuner 1 reception
24	WP	O	Signal for conver EEPROM rewriting
25	HS2	TIM	Level synchronous count input for tuner 2 reception
26	CBUSY	I	BUSY signal for CM0021 (digital conver) control
27	CRESET	O	RESET signal for CM0021 (digital conver) control
28	SCL2	O	CM0022AF (digital conver), TA1340F (main, sub synchronization), YGT-035 (Hitachi module), M62399FP (DAC for videos), CXA2180AQ (video jungle), CXA2153 (gamma compensation) and SCL signal for BD3867F (audio)
29	SCL1	O	TUNER1.2,CXA2069Q(AVI/O),CXA2171Q (main,sub component SW)SCL signal for uPD64083(3D Y/C)
30	SDA1	I/O	TUNER1.2,CXA2069Q(AVI/O),CXA2171Q (main,sub component SW)SDA signal for uPD64083(3D Y/C)
31	SDA2	I/O	CM0022AF (digital conver), TA1340F (main, sub synchronization), YGT-035 (Hitachi module), M62399FP (DAC for videos), CXA2180AQ (video jungle), CXA2153 (gamma compensation) and SDA signal for BD3867F (audio)
32	OSDR	O	OSD R output
33	OSDG	O	OSD G output
34	OSDB	O	OSD B output
35	TXD0	O	RS-232C, serial input and output mode communication (for transmission)
36	RXD0	I	RS-232C, serial input and output mode communication (for reception)
37	CLK0	I	Serial clock at the time of writing and elimination
38	RTS0	I	Writing, the BUSY signal at the time of elimination
39	VMUTE	O	Video mute output (parent screen and small screen mute)
40	SHARPSW	O	SHARPNESS ON/OFF change signal (AN5395FBP)
41	EPM	I	Serial input-and-output mode setting port
42	31KSW	O	Input signal 31K and other SHARPNESS , picture quality change signal (AN5395FBP)
43	PMUTE	O	Video mute at the time of OSD.
44	31K/33K	O	Component 31K / 33K (45K) change signal
45	SPASS	O	AN5395FBP (SHARPNESS) through signal
46	CE	I	Serial input and output mode setting port
47	COMPFULL	O	Main component 480P, 1080IFULL mode Change signal
48	STDSW	O	Standard signal / non-standard distinction signal
49	NC	-	-
50	AMUTE	O	Audio mute output
51	EEPRST	O	RESET output for EEPROM
52	ESCL	O	SCL signal for EEPROM communication
53	ESDA	O	SDA signal for EEPROM communication
54	PURE RGB	O	4:3 panel signals, component signal / RGB signal change
55	(MD)	-	-
56	MMUTE	O	Main video mute signal
57	SMUTE	O	Sub video mute signal
58	3DRST	O	Reset signal output for 3-dimensional YC
59	(MCOMPSW)	O	Main video signal composite / component change signal
60	(SCOMPSW)	O	Sub video signal composite / component change signal

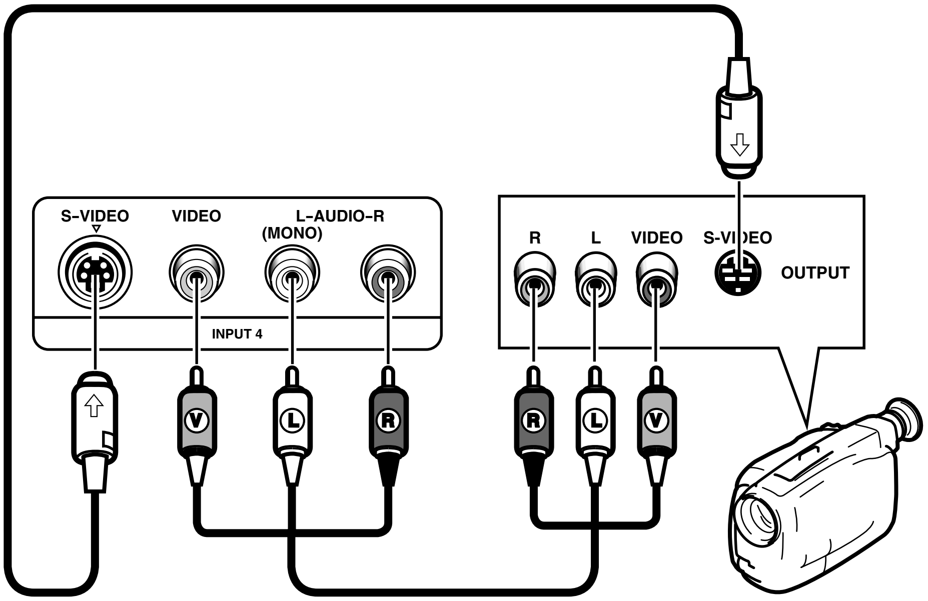
● Pin Function (3/3)

Pin	Pin Name	I/O	Pin Function
61	DSUB/DVISW	O	INPUT3 (D-sub) / INPUT5.6 (DVI) change signal
62	H BLK	I	Synchronized signal for CCD display and HBLK input
63	TV SW	O	Signal for 3DYC postposing filter change
64	V BLK	I	Synchronized signal for CCD display and Vsync input
65	DET	I	Input for electric discharge detection
66	(FUNC1)	O	Signal output 1 for function distinction
67	(FUNC2)	O	Signal output 2 for function distinction
68	(IN5DET)	I	INPUT5 signal existence distinction
69	(IN6DET)	I	INPUT6 signal existence distinction
70	(MTYPE)	I	Board type distinction
71	-	-	-
72	FLASH	O	Signal output for Light Emitting Diode blink at the time of a power management and software rewriting.
73	DVIRST	O	IC RESET for TMDS
74	MDET	I	DVI board existence detected signal input
75	MOFF	O	PD signal for DVI boards at the time of DVI board unusual detection and main SW OFF.
76	PTT	I	DVI board unusual detected signal
77	VAR/FIX MUTE	O	Audio out mute
78	CENTER SW	O	AUDIO CENTER change signal
79	VAR/FIX SW	O	VARIABLE/FIX change signal
80	MON/TVMUTE	O	Moniter/TVout L, R, V output mute
81	ST1	I	Sound multiplex control (MTS information)
82	SAP1	I	Sound multiplex control (MTS information)
83	FMONO	O	Sound multiplex control (MTS change)
84	MPX	O	Sound multiplex control (MTS change)
85	ANTSW	O	Output for ANT SW change
86	ACCLK	I	AC power supply OFF detection AC.CLK detection input
87	RELAY2	O	Large power supply relay control
88	RELAY1	O	Small power supply relay control
89	KEY	AD INPUT	Analog DC voltage input for KEY input distinction
90	AFT1	AD INPUT	AFT analog voltage input for tuners 1
91	AFT2	AD INPUT	AFT analog voltage input for tuners 2
92	RLS	AD INPUT	Aalog DC voltage input for RLS input distinction
93	VDET	AD INPUT	Secondary side voltage It rises and is a detection input.
94	ACL	AD INPUT	Analog DC voltage input for ACL signal distinction
95	VHOLD2	I	External parts for sub CCD standard voltage generating circuits are connected.
96	HLF2	I/O	External parts for sub CCD timing signal generating circuits are connected.
97	SCCY	I	Picture signal input for small screen V CHIP detection (1.5Vpp)
98	TVSETB	I	Test input terminal (it fixes to Lo)
99	VCCE	-	STB5V
100	MCCY	I	Picture signal input for parent screen V CHIP detection (1.5Vpp)

( ) is undecided.

7.3 EXPLANATION

■ CONNECTING VIDEO/AUDIO EQUIPMENT



Video movie/VCR

INPUT jacks

The monitor is equipped with input jacks 1 to 6.
Refer to the following explanation for information about each jack.

COMPOSITE VIDEO INPUT jacks

There are 4 sets of inputs for VCR and DVD/LD players. Use RCA-type pin plug cords (the same as those used in Hi-Fi systems) for connections. When the audio source to be connected is mono, connect the source to the L-(MONO) jack.

S-VIDEO INPUT jacks

- Inputs signals from a DVD/LD player that has an S-VIDEO output jack.
- When the signal input from the S-VIDEO INPUT jack is output from the MONITOR/TV OUTPUT jack, the output signal will be a composite of Y and C.

COMPONENT VIDEO INPUT jack

Inputs three signals – Y, P_B/ C_B and P_R/ C_R – output from DVD players and the like.

Input formats in which images can be received.

	Format	Horizontal frequency	Vertical frequency
DVD player, etc.	480 i 480 p	15.734 kHz 31.468 kHz	60 Hz 60 Hz
Digital tuner, etc.	720 p 1080 i 480 p	45.00 kHz 33.75 kHz 31.468 kHz	60 Hz 60 Hz 60 Hz

RGB INPUT jack

Inputs five signals – R, G, B, H and V – output from digital tuners and the like.

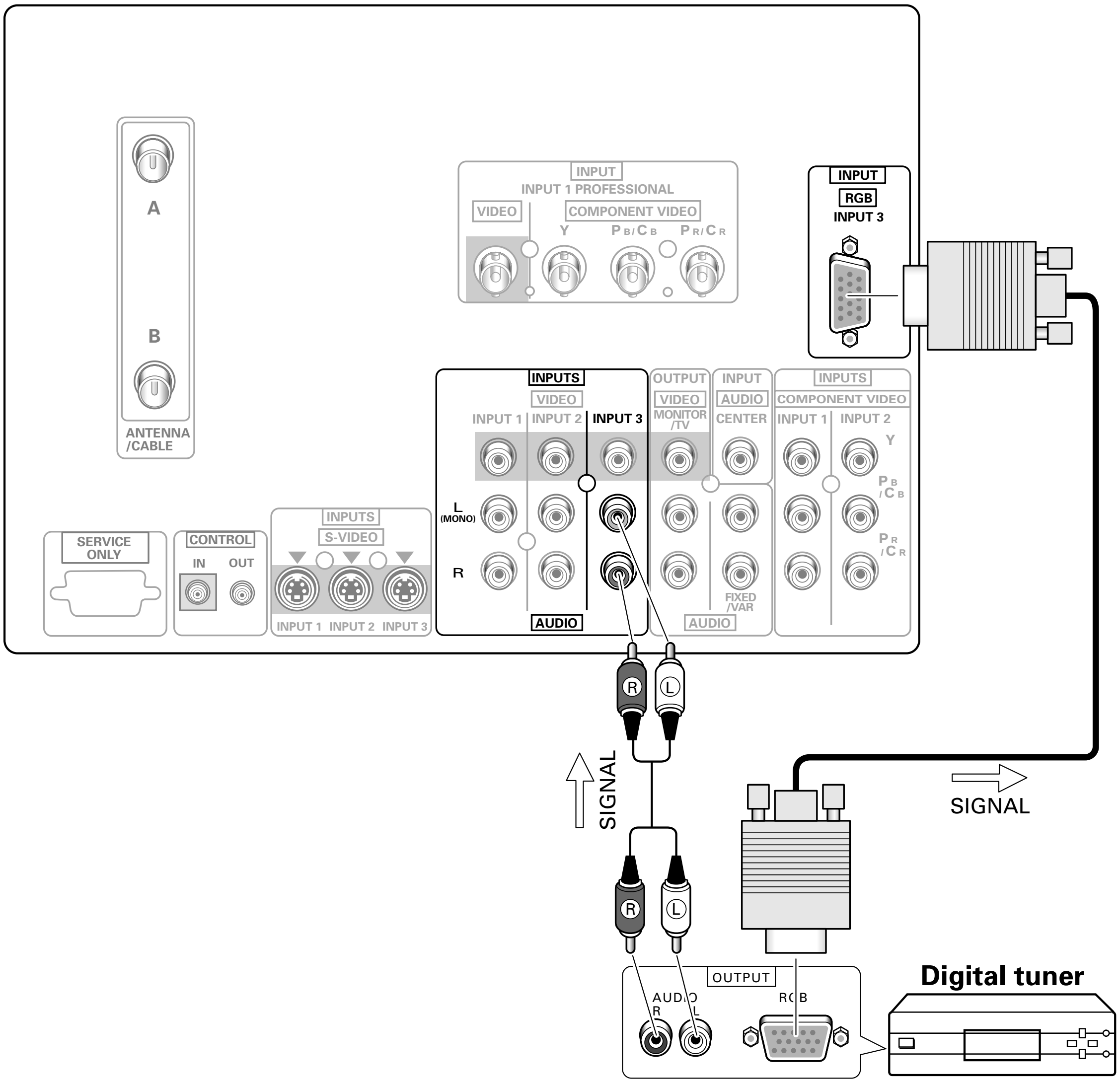
Input format in which images can be received.

	Format	Horizontal frequency	Vertical frequency
Digital tuner	1080 i	33.75 kHz	60 Hz

NOTES:

- SPLIT screen, FREEZE screen and SEARCH screen functions cannot be used when 1080i or 720p component signals are input.
- Signals from MONITOR/TV OUTPUT jacks will not be output when component signals or RGB signals are input.
- The RGB input jack is designed for use in connecting a digital tuner with RGB signal output, and it should accordingly never be used for connecting to a personal computer or other device.

Rear Panel

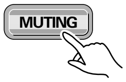

A
B
ANTENNA /CABLE
INPUT
INPUT 1 PROFESSIONAL
VIDEO
COMPONENT VIDEO
Y
PB/CB
PR/CR
INPUT
RGB
INPUT 3
INPUTS
VIDEO
INPUT 1
INPUT 2
INPUT 3
L (MONO)
R
AUDIO
OUTPUT
VIDEO
MONITOR /TV
INPUT
AUDIO
CENTER
FIXED /VAR
AUDIO
INPUTS
COMPONENT VIDEO
INPUT 1
INPUT 2
Y
PB /CB
PR /CR
SERVICE ONLY
CONTROL
IN
OUT
INPUTS
S-VIDEO
INPUT 1
INPUT 2
INPUT 3
R
L
SIGNAL
SIGNAL
R
L
OUTPUT
AUDIO
R
L
RGB
Digital tuner

NOTE:
When the 3 signals, RGB signal, composite signal, and S signal, are simultaneously input to INPUT 3, the RGB signal will be displayed on screen.

■ TO WATCH TV

To turn off the sound

Press the MUTING button.



When mute is turned on, a volume indicator will appear in red on the screen (and will disappear in a few seconds).
If the MUTING button is pressed while a closed caption signal is being received, CC/TEXT will be displayed.
Press MUTING again to return to the previous volume level.

Auto power off function

If the monitor is receiving no input signals in TV mode, its power will turn off (go on standby) after some time has passed.

PROGRAM BLOCK (V. CHIP) FUNCTION

Since laws have been passed in the United States requiring a way of blocking undesirable programming, the V-chip has become a required component in television sets. The V-chip is a computer chip which decodes signals added to broadcast signals transmitted by television broadcasters. These signals are classified by programming content (e.g., amount of violence or sexual content) and age, and viewers may specify settings which block certain types of programming.
Program blocking may be set to a specific level judged by parents to be undesirable for children depending on their age and the content of the programming in question. The V-chip makes it impossible for such children to view programs with ratings exceeding the specified level.

The V-chip uses the following rating system.

<U.S.A. RATING SYSTEM>

MPAA RATING

RATING		
Age-Base	G	GENERAL AUDIENCES. All ages admitted.
	PG	PARENTAL GUIDANCE SUGGESTED. Some material may not be suitable for children.
	PG-13	PARENTAL STRONGLY CAUTIONED. Some material may be inappropriate for children under 13.
	R	RESTRICTED. Under 17 requires accompanying parent or adult guardian.
	NC-17	NO ONE 17 AND UNDER ADMITTED.
	X	X Rating is an older rating that is the same as NC-17 and may be encoded on the data of older movie.
	NR	NOT RATED

TV PARENTAL GUIDELINES

RATING		Description and Content Themes				
		FV	D	L	S	V
Age-Base	TV-Y	–	–	–	–	–
	TV-Y7	○	–	–	–	–
	TV-G	–	–	–	–	–
	TV-PG	–	○	○	○	○
	TV-14	–	○	○	○	○
	TV-MA	–	–	○	○	○

FV: Fantasy Violence
D: Sexually Suggestive Dialog
L: Adult Language
S: Sexual Situations
V: Violence

TV-Y	All Children. This program is designed to be appropriate for all children.
TV-Y7	Directed to Older Children. This program is designed for children age 7 and above. Note: For those programs where fantasy violence may be more intense or more combative than other programs in this category, such programs will be designated TV-Y7-FV.
TV-G	General Audience. Most parents would find this program suitable for all ages.
TV-PG	Parental Guidance Suggested. This program contains material that parents may find unsuitable for younger children. The program contains one or more of the following: (D) Some suggestive dialogue (L) Infrequent coarse language (V) Moderate violence (S) Some sexual situations
TV-14	Parents Strongly Cautioned. This program contains some material that many parents would find unsuitable for children under 14 years of age. This program contains one or more of the following: (D) Intensely suggestive dialogue (L) Strong coarse language (S) Intense sexual situations (V) Intense violence
TV-MA	Mature Audience Only. This program is specifically designed to be viewed by adults and therefore may be unsuitable for children under 17. This program contains one or more of the following: (L) Crude indecent language (S) Explicit sexual activity (V) Graphic violence

<CANADIAN RATING SYSTEM>

CANADIAN ENGLISH LANGUAGE RATING SYSTEM

RATING		
Age-Base	C	Children
	C8+	Children 8 years and older
	G	General programming, suitable for all audiences
	PG	Parental Guidance
	14+	Viewers 14 years and older
	18+	Adult Programming

C Programming interned for children under age 8
Careful attention is paid to themes, which could threaten children's sense of security and well-being. There will be no realistic scenes of violence. Depictions of aggressive behaviour will be infrequent and limited to portrayals that are clearly imaginary, comedic or unrealistic in nature.

C8+ Programming generally considered acceptable for children 8 years and over to watch on their own
Violence will not be portrayed as the preferred, acceptable, or only way to resolve conflict; or encourage children to imitate dangerous acts which they may see on television. Any realistic depictions of violence will be infrequent, discreet, of low intensity and will show the consequences of the acts.

G General Audience
Will contain very little violence, either physical or verbal or emotional. Will be sensitive to themes which could frighten a younger child, will not depict realistic scenes of violence which minimize or gloss over the effects of violent acts.
PG Parental Guidance
Programming intended for a general audience but which may not be suitable for younger children. Parents may consider some content inappropriate for unsupervised viewing by children aged 8-13.

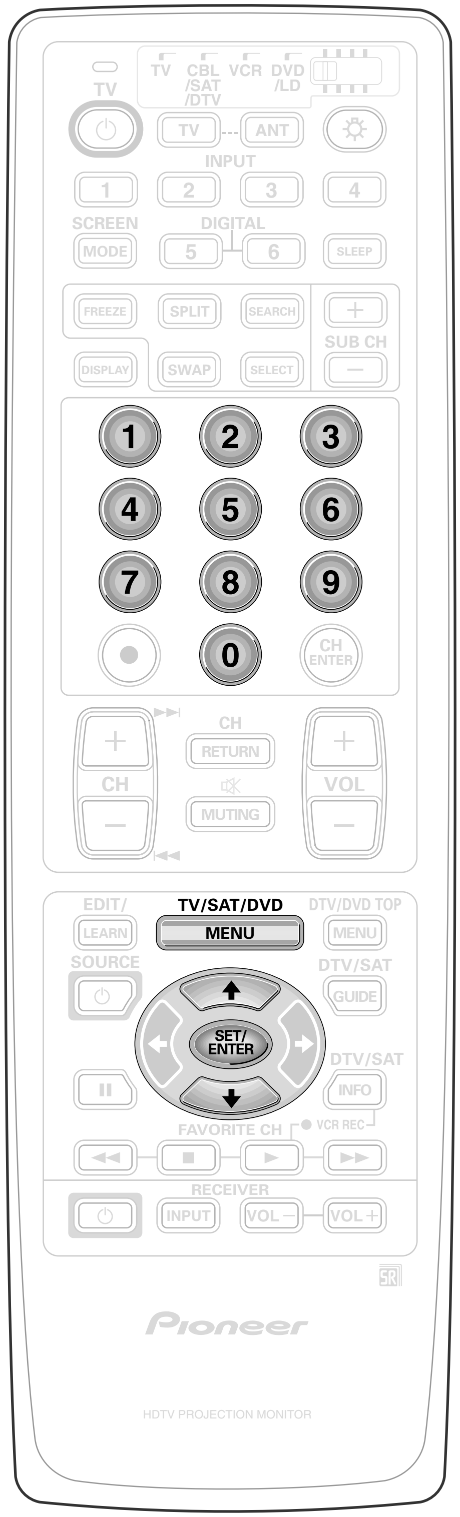
14+ Programming contains themes or content which may not be suitable for viewers under the age of 14
Parents are strongly cautioned to exercise discretion in permitting viewing by pre-teens and early teens.

18+ Adult
May contain violence integral to the development of the plot, character or theme, intended for adult audiences.

CANADIAN FRENCH LANGUAGE RATING SYSTEM

RATING		
Age-Base	G	General
	8+	Children 8 years and older
	13+	Viewers 13 years and older
	16+	Viewers 16 years and older
	18+	For Adults

G General
Programming intended for audience of all ages. Contains no violence, or the violence it contains is minimal or is depicted appropriately with humour or caricature or in an unrealistic manner.
8+ 8+ General – Not recommended for young children
(8 ans+) Programming intended for a broad audience but contains light or occasional violence that could disturb young children. Viewing with an adult is therefore recommended for young children (under the age of 8) who cannot differentiate between real and imaginary portrayals.
13+ Programming may not be suitable for children under the age of 13
(13 ans+) Contains either a few violent scenes or one or more sufficiently violent scenes to affect them. Viewing with an adult is therefore strongly recommended for children under 13.
16+ Programming is not suitable for children under the age of 16
(16 ans+) Contains frequent scenes of violence or intense violence.
18+ Programming restricted to adults
(18 ans+) Contains constant violence or scenes of extreme violence.



TV
TV CBL /SAT /DTV VCR DVD /LD
TV ANT
INPUT
1 2 3 4
SCREEN MODE
DIGITAL 5 6
SLEEP
FREEZE SPLIT SEARCH
DISPLAY SWAP SELECT
SUB CH
1 2 3 4 5 6 7 8 9 0
CH ENTER
CH RETURN VOL
MUTING
EDIT/ LEARN
TV/SAT/DVD MENU
DTV/DVD TOP MENU
SOURCE
DTV/SAT GUIDE
SET/ ENTER
DTV/SAT INFO
FAVORITE CH
VCR REC
RECEIVER INPUT VOL− VOL+
Pioneer
HDTV PROJECTION MONITOR

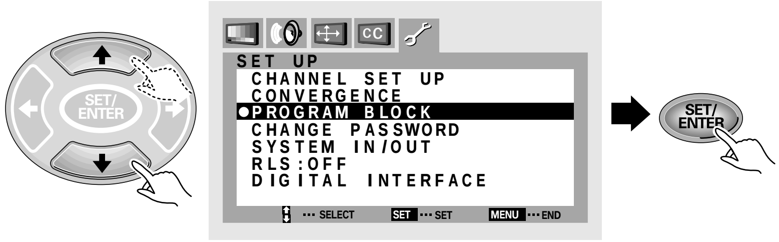
Note:
The menu display method of a remote Control unit.
(Refer to Operating Instructions.)

• SETTING THE PROGRAM BLOCKING LEVEL

1. Press MENU and select SET UP by using the ⬅ or ➡ button and then pressing ⬇ button.

---

2. Select PROGRAM BLOCK in the same way.

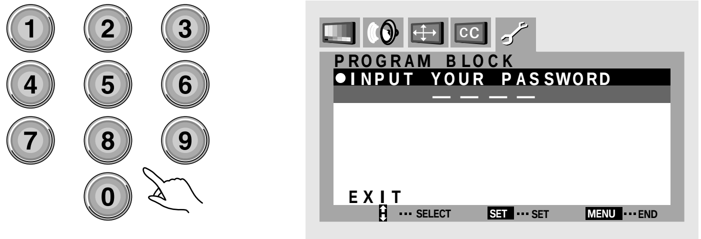


SET/ ENTER
CC

SET UP
CHANNEL SET UP
CONVERGENCE
●PROGRAM BLOCK
CHANGE PASSWORD
SYSTEM IN/OUT
RLS:OFF
DIGITAL INTERFACE
⇕ ··· SELECT SET ··· SET MENU ··· END

---

3. Enter a password.
   - Press numeric buttons ‘0’ through ‘9’ to enter a four-digit password.
   - If the password has not been changed as described in Changing Password, enter the default password of ‘1234’.
   - If you wish to change the password (recomended), Changing Password for instructions on how to do so.

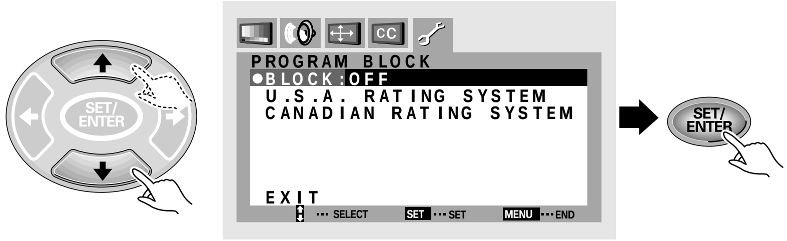


1 2 3 4 5 6 7 8 9 0
CC

PROGRAM BLOCK
●INPUT YOUR PASSWORD
_ _ _ _
EXIT
⇕ ··· SELECT SET ··· SET MENU ··· END

---

4. Select BLOCK

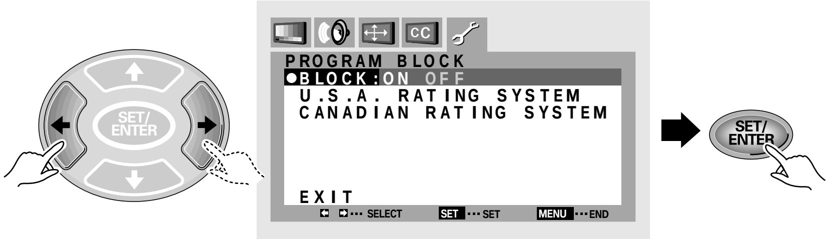


SET/ ENTER
CC

PROGRAM BLOCK
●BLOCK:OFF
U.S.A. RATING SYSTEM
CANADIAN RATING SYSTEM
EXIT
⇕ ··· SELECT SET ··· SET MENU ··· END

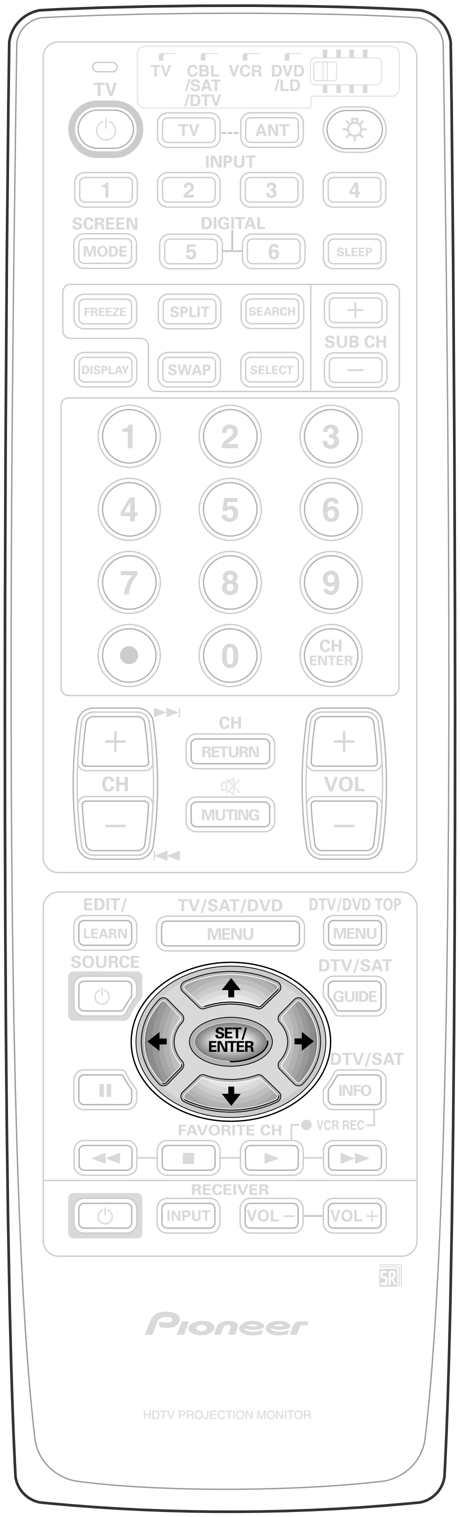
---

5. Set BLOCK to ON.

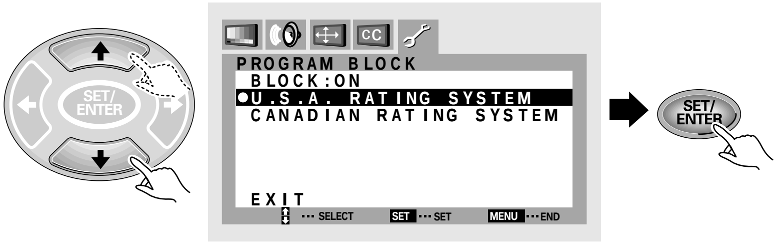


SET/ ENTER
CC

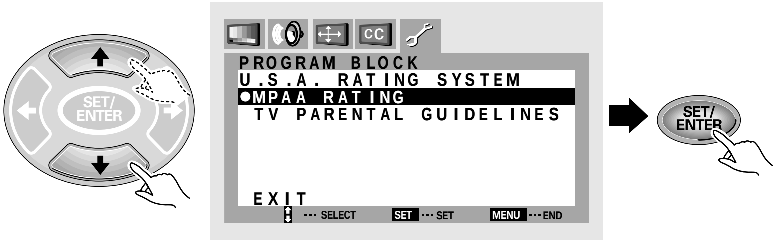
PROGRAM BLOCK
●BLOCK:ON OFF
U.S.A. RATING SYSTEM
CANADIAN RATING SYSTEM
EXIT
⇔ ··· SELECT SET ··· SET MENU ··· END


TV
TV CBL /SAT /DTV VCR DVD /LD
TV ANT
INPUT
1 2 3 4
SCREEN MODE
DIGITAL
5 6
SLEEP
FREEZE SPLIT SEARCH
SUB CH
DISPLAY SWAP SELECT
1 2 3 4 5 6 7 8 9 0
CH ENTER
CH
RETURN
MUTING
VOL
EDIT/ LEARN
TV/SAT/DVD MENU
DTV/DVD TOP MENU
SOURCE
DTV/SAT GUIDE
SET/ ENTER
DTV/SAT INFO
FAVORITE CH
VCR REC
RECEIVER
INPUT VOL– VOL+
Pioneer
HDTV PROJECTION MONITOR

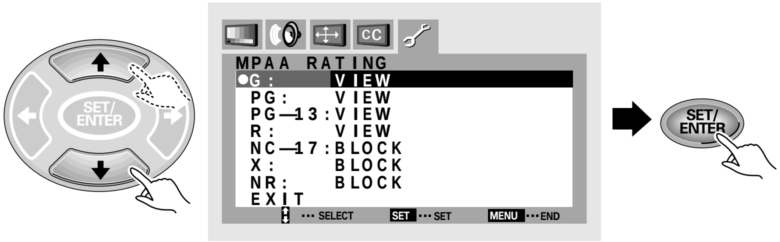
6. Select **U.S.A. RATING SYSTEM** or **CANADIAN RATING SYSTEM**.

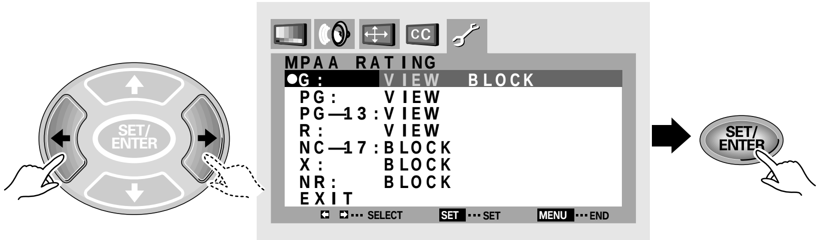

PROGRAM BLOCK
BLOCK:ON
●U.S.A. RATING SYSTEM
CANADIAN RATING SYSTEM
EXIT
SELECT
SET SET
MENU END
SET/ ENTER
SET/ ENTER

7. If you selected **U.S.A. RATING SYSTEM**.
Select **MPAA RATING** or **TV PARENTAL GUIDELINES**.


PROGRAM BLOCK
U.S.A. RATING SYSTEM
●MPAA RATING
TV PARENTAL GUIDELINES
EXIT
SELECT
SET SET
MENU END
SET/ ENTER
SET/ ENTER

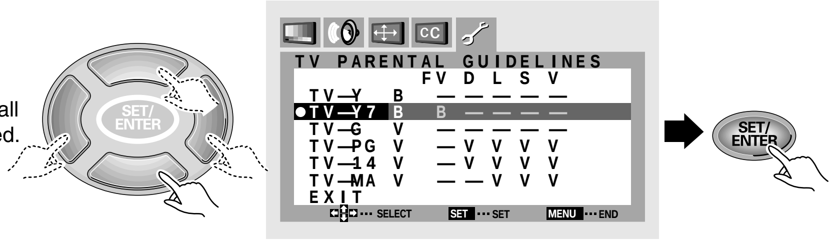
8. Select and then confirm the rank of the MPAA RATING.


MPAA RATING
●G: VIEW
PG: VIEW
PG–13: VIEW
R: VIEW
NC–17: BLOCK
X: BLOCK
NR: BLOCK
EXIT
SELECT
SET SET
MENU END
SET/ ENTER
SET/ ENTER


MPAA RATING
●G: VIEW BLOCK
PG: VIEW
PG–13: VIEW
R: VIEW
NC–17: BLOCK
X: BLOCK
NR: BLOCK
EXIT
SELECT
SET SET
MENU END
SET/ ENTER
SET/ ENTER

NOTE:
- Blocking programming with a low rating will cause all programming with a higher rating also to be blocked.
- The 'NR' (not rated) MPAA RATING may be set to 'View' or 'Block' without regard to other ratings.

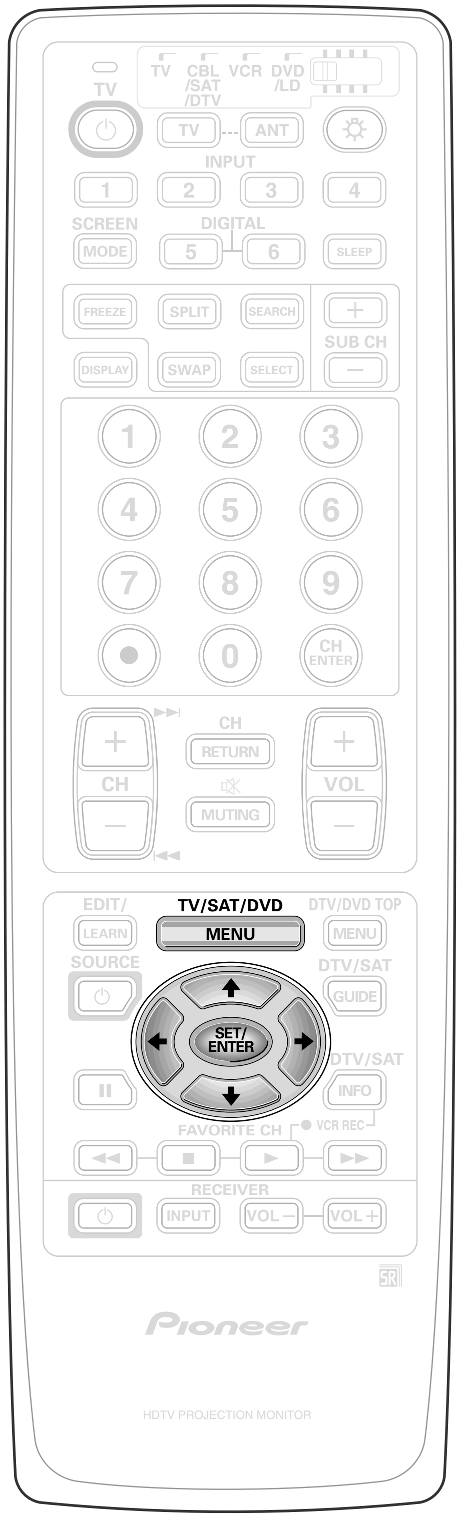
9. Select and confirm the rank of the TV PARENTAL GUIDELINES.


TV PARENTAL GUIDELINES

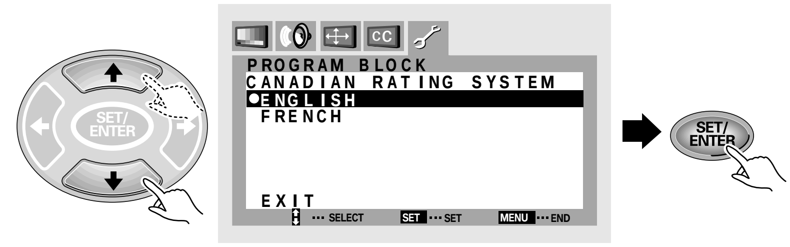
		FV	D	L	S	V
TV–Y	B	—	—	—	—	—
●TV–Y7	B	B	—	—	—	—
TV–G	V	—	—	—	—	—
TV–PG	V	—	V	V	V	V
TV–14	V	—	V	V	V	V
TV–MA	V	—	—	V	V	V

EXIT
SELECT
SET SET
MENU END
SET/ ENTER
SET/ ENTER

- Each time the SET/ENTER button is pressed, the setting will toggle between 'B' (Block) and 'V' (View).

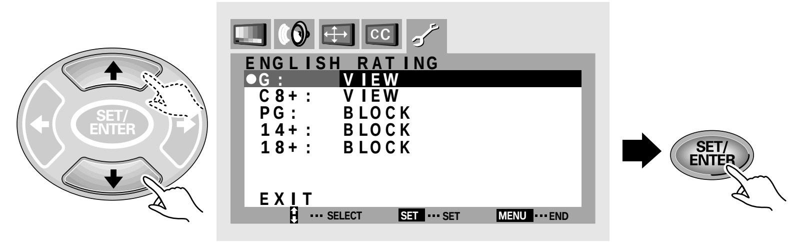

TV
TV CBL /SAT /DTV VCR DVD /LD
TV ANT
INPUT
1 2 3 4
SCREEN MODE
DIGITAL 5 6
SLEEP
FREEZE SPLIT SEARCH
SUB CH
DISPLAY SWAP SELECT
1 2 3 4 5 6 7 8 9 0
CH ENTER
CH RETURN
MUTING
CH VOL
EDIT/ LEARN
TV/SAT/DVD MENU
DTV/DVD TOP MENU
SOURCE
DTV/SAT GUIDE
SET/ ENTER
DTV/SAT INFO
FAVORITE CH
VCR REC
RECEIVER INPUT VOL– VOL+
Pioneer
HDTV PROJECTION MONITOR

10. If you selected CANADIAN RATING SYSTEM in step 6, select ENGLISH or FRENCH .

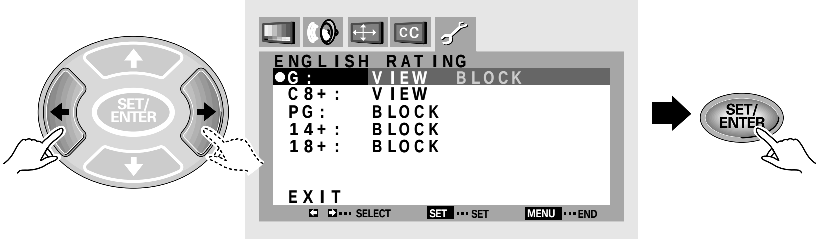

SET/ ENTER
SET/ ENTER

PROGRAM BLOCK
CANADIAN RATING SYSTEM
●ENGLISH
FRENCH
EXIT
⇕ ··· SELECT SET ··· SET MENU ··· END

11. If you selected ENGLISH, select and then confirm the rank of the ENGLISH RATING (If you selected FRENCH go to step 12).


SET/ ENTER
SET/ ENTER

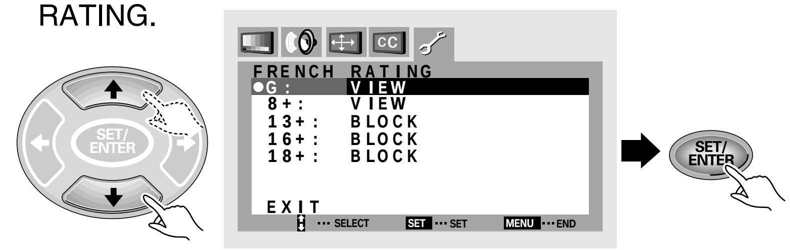
ENGLISH RATING
●G : VIEW
C8+ : VIEW
PG : BLOCK
14+ : BLOCK
18+ : BLOCK
EXIT
⇕ ··· SELECT SET ··· SET MENU ··· END


SET/ ENTER
SET/ ENTER

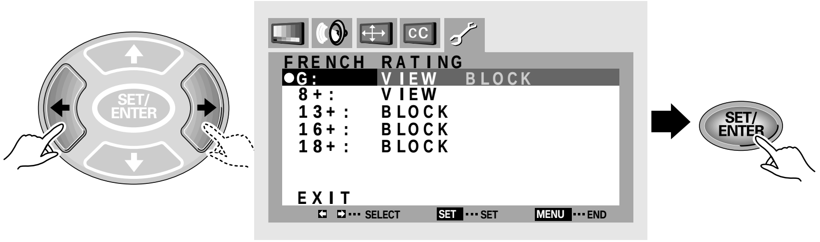
ENGLISH RATING
●G : VIEW BLOCK
C8+ : VIEW
PG : BLOCK
14+ : BLOCK
18+ : BLOCK
EXIT
◂ ▸ ··· SELECT SET ··· SET MENU ··· END

Go to step 13.

12. Select and then confirm the rank of the FRENCH RATING.

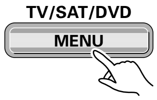

SET/ ENTER
SET/ ENTER

FRENCH RATING
●G : VIEW
8+ : VIEW
13+ : BLOCK
16+ : BLOCK
18+ : BLOCK
EXIT
⇕ ··· SELECT SET ··· SET MENU ··· END


SET/ ENTER
SET/ ENTER

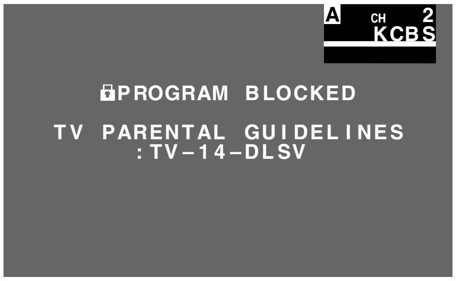
FRENCH RATING
●G : VIEW BLOCK
8+ : VIEW
13+ : BLOCK
16+ : BLOCK
18+ : BLOCK
EXIT
◂ ▸ ··· SELECT SET ··· SET MENU ··· END

13. After setting, press MENU to turn the menu off.


TV/SAT/DVD
MENU

HOW TO REMOVE BLOCKING FROM A PROGRAM IN PROGRESS

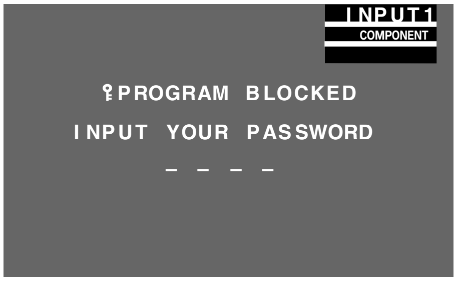
If you choose a program that has a rating higher than your program blocking rating, the picture and sound will cut off and an enter password screen will appear.



PROGRAM BLOCKED

TV PARENTAL GUIDELINES
: TV–14–DLSV

Press the SET/ENTER button on the remote control.



PROGRAM BLOCKED

INPUT YOUR PASSWORD

_ _ _ _

If you enter your password the blocking will be removed for this viewing only.

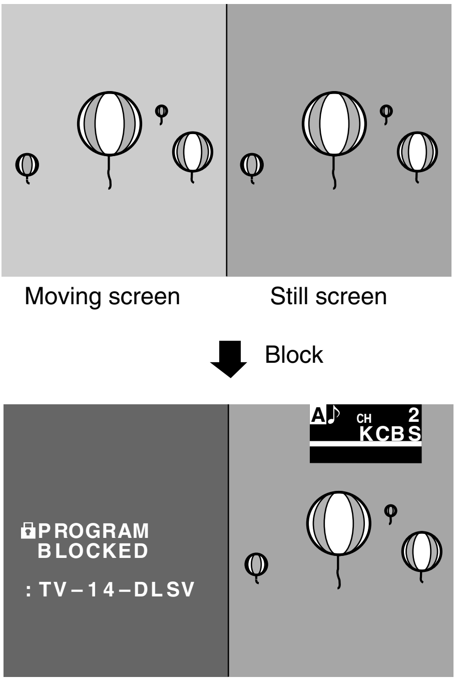
NOTE:
If the monitor power is turn OFF then turned ON again, the Program Blocked screen will appear again and you'll need to re-enter the password to view the program.

CHANGING PASSWORD

If you forget the password
When the message 'INPUT YOUR PASSWORD' in step 3 is displayed, press the RETURN button on the front panel and hold it down for 3 seconds or longer.
The password reverts to "1234".

REMOVING BLOCKING IN MULTI-SCREEN MODE

- Just as in normal single-screen mode, programs are blocked in SEARCH screen mode (see pages 44 and 45), but blocking can be removed only from the Main picture.
  To remove blocking from Search picture screen, switch to the Main picture for that channel and then remove blocking.
  Because it is impossible to remove blocking when the main picture of 9 screen is blocked, remove it after returning to the single screen.
- When viewing in FREEZE screen (see page 44) mode, only programming on the Moving screen to the left will be blocked and the programming on the Still screen to the right will be displayed as is.



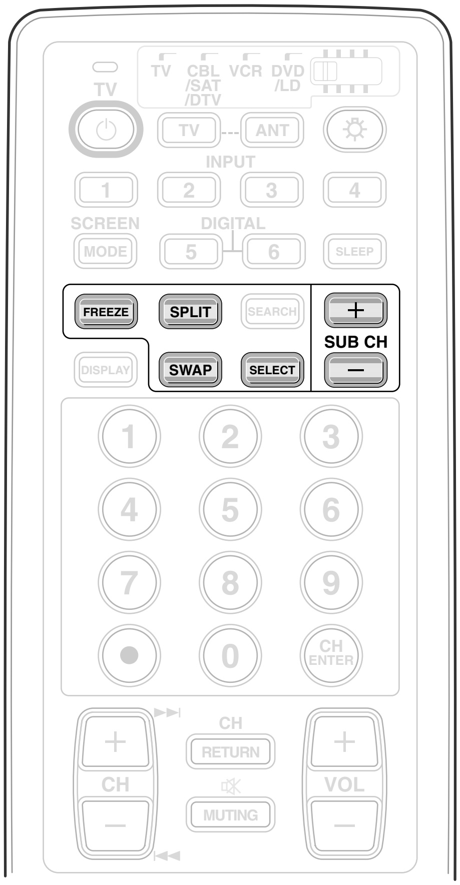
PROGRAM BLOCKED

: TV–14–DLSV

Still screen

- When blocking is on during SEARCH screen mode, the screen at search picture side will be blacked out and won't display: "PROGRAM BLOCKED".

MULTI-SCREEN FUNCTION


TV
TV
CBL /SAT /DTV
VCR
DVD /LD
TV
ANT
INPUT
1
2
3
4
SCREEN
MODE
DIGITAL
5
6
SLEEP
FREEZE
SPLIT
SEARCH
DISPLAY
SWAP
SELECT
+
SUB CH
–
1
2
3
4
5
6
7
8
9
●
0
CH ENTER
CH
RETURN
MUTING
+
CH
–
+
VOL
–

NOTES:

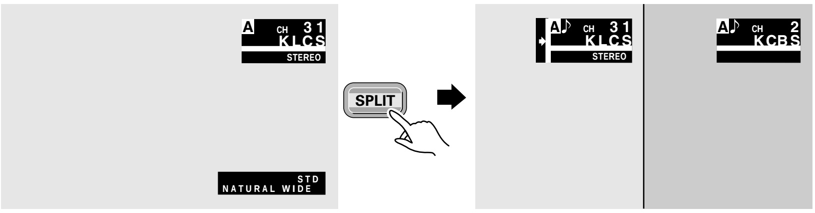
- The same image cannot be viewed as both the main picture and the sub-picture.
- Pressing the MENU button in SPLIT or FREEZE screen mode restores the screen display to normal and displays the menu on screen.
- These functions cannot be used when INPUT 1 or INPUT 2 is receiving a 1080i or 720p component signal (or the signals might not be received or noise might be generated).
- When a TV broadcast is being received, the screen on the right will not show the antenna B signal.
- RGB signals input from INPUT3 cannot be displayed.
- During 1080i input of digital signal input (INPUT 5, 6), display is not possible.
- Continuous operation for extended periods in SPLIT or FREEZE screen mode may burn out the screen. We thus recommend that these modes only be used in conjunction with the normal screen mode.
- If the non-interlace signal for a TV game etc. is entered to the left screen during SPLIT screen mode, the right screen may be disrupted. If this occurs, use the right screen for TV game etc. entry.

• VIEWING TWO SCREENS (SPLIT screen)

The screen can be split vertically, making it possible to view different images on the left and right.

- The screen on left side is the main picture, and the other screen is the sub-picture. Sound will be output for the main picture.
  Sound from the TV speaker will only be output for the main picture.
  To listen to sound for a sub picture, press the SWAP button and switch the screens on the left and the right.
- Regular operations can be performed on the main picture.

Press the SPLIT button.


A CH 31 KLCS
STEREO
STD NATURAL WIDE
SPLIT
A♪ CH 31 KLCS
STEREO
A♪ CH 2 KCBS

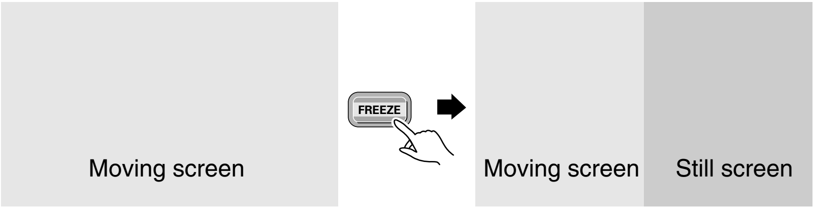
(Main picture) (Sub picture)

- When the SUB CH +,– buttons are pressed, the channel for the sub-picture will be changed.
- When the SELECT button is pressed, the ➡ will move to the other screen.
- The MONITOR/TV OUTPUT terminal outputs the main picture signal.
- Pressing the SPLIT button again will restore the original screen.

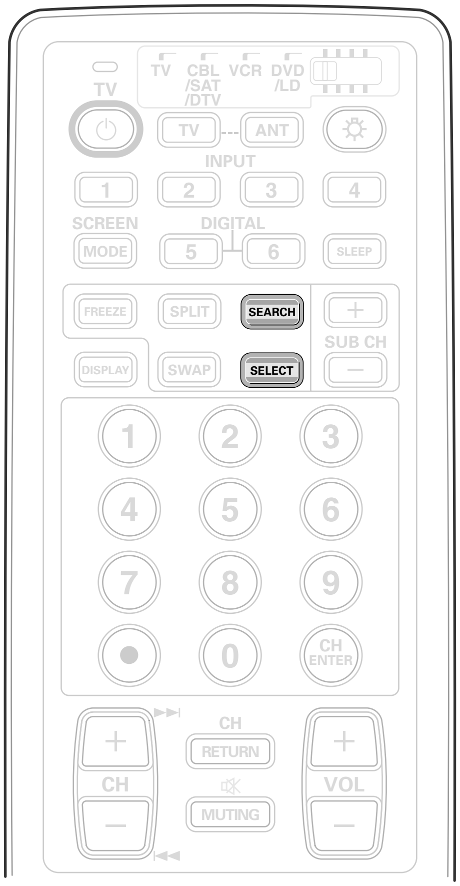
• MAKING NOTES ON PROGRAM CONTENT (FREEZE screen)

The screen can be frozen, such as for taking down a recipe from a cooking program or an address for entering a quiz or the like.

Press the FREEZE button.


Moving screen
FREEZE
Moving screen
Still screen

- This function is operable only with the normal screen.
- Pressing the FREEZE button again will restore the original screen.

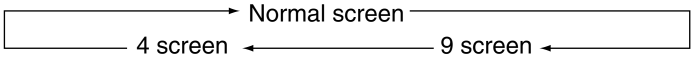

TV
TV CBL/SAT/DTV VCR DVD/LD
TV
ANT
INPUT
1
2
3
4
SCREEN
MODE
DIGITAL
5
6
SLEEP
FREEZE
SPLIT
SEARCH
SUB CH
DISPLAY
SWAP
SELECT
1
2
3
4
5
6
7
8
9
●
0
CH ENTER
CH
RETURN
CH
MUTING
VOL

SEARCHING FOR A PROGRAM ON A DIFFERENT CHANNEL (SEARCH screen)

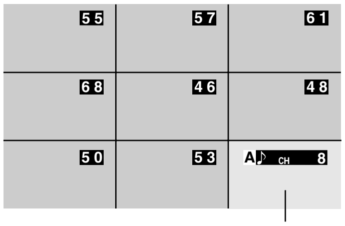
The screen can be made into nine or four different screens, making it possible to search for programs or enjoy multiple images.

Press the SEARCH button.

- Each time the SEARCH button is pressed, the screen mode changes in the following order.

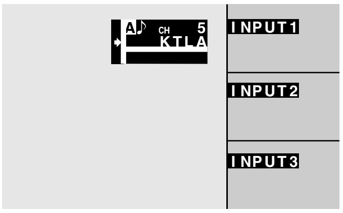

Normal screen
4 screen
9 screen

① 9 screen


55
57
61
68
46
48
50
53
A CH 8

Search picture Main picture

- On the search picture, the antenna A preset channel will be displayed as a frozen image. If 8 or more channels have been preset, the screens will automatically be switched and displayed.
- The search picture cannot be operated.
- If the channel or input source is changed, SEARCH screen mode will turn off.
- Sound output is limited to the main picture.


A CH 5
KTLA
INPUT1
INPUT2
INPUT3

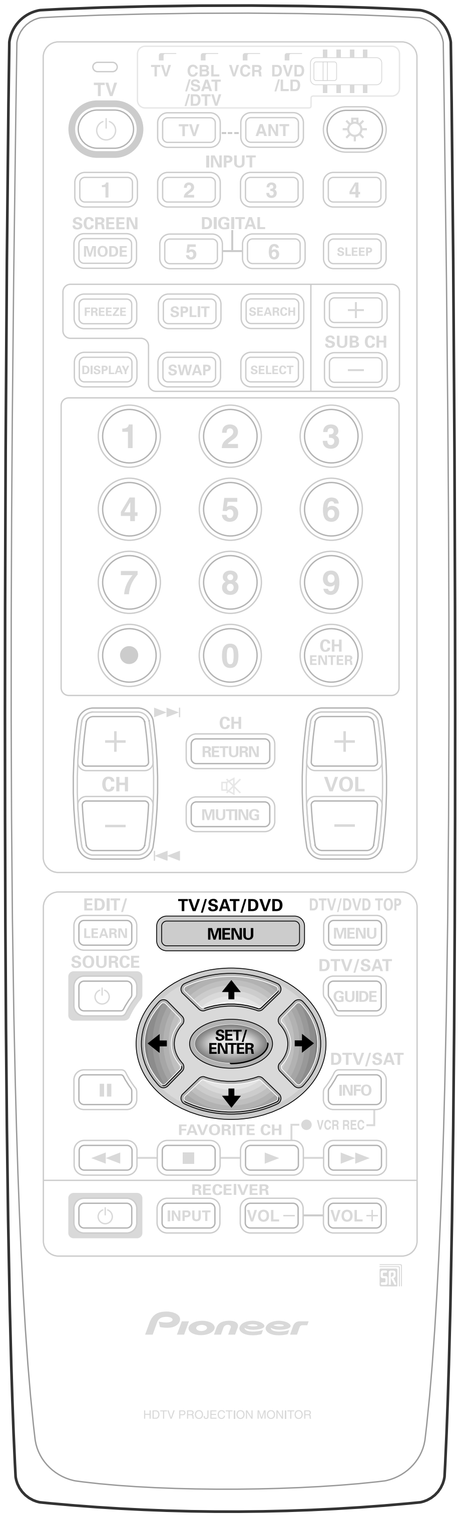
Main picture Search picture

② 4 screen

- Press the SELECT button to select the image that you wish to switch the channel or input source to. You can operate the screen that is selected by the yellow arrow. (Use only the selector buttons, direct channel selection buttons if channel, antenna or CH +,– buttons.)
- Sound output is limited to the main picture.

- Pressing the MENU button in SEARCH screen mode restores the screen display to normal and displays the menu on screen.
- These functions cannot be used when INPUT 1 or INPUT 2 is receiving a 1080i, 480p or 720p component signal (or the signals might not be received or noise might be generated).
- RGB signals input from INPUT3 cannot be displayed. Display is also not possible during digital signal input (INPUT 5, 6).
- Continuous operation for extended periods in SEARCH screen mode may burn out the screen. We thus recommend that these modes only be used in conjunction with the normal screen mode.
- The only channels displayed on the SEARCH screen will be those with input signals input from antenna A. Antenna B channels cannot be displayed on this screen.
- If the non-interlace signal for a TV game etc. is entered to the left screen during 9 screen or 4 screen modes, the screen may be disrupted.

■ MULTI-POINT CONVERGENCE ADJUSTMENT

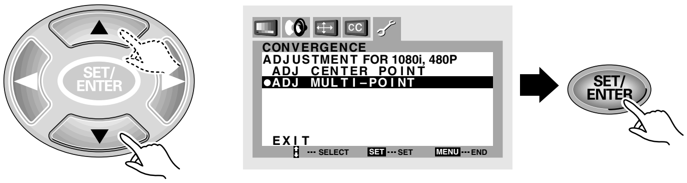

TV CBL /SAT /DTV VCR DVD /LD
TV
TV ANT
INPUT
1 2 3 4
SCREEN MODE
DIGITAL 5 6
SLEEP
FREEZE SPLIT SEARCH
DISPLAY SWAP SELECT
SUB CH + −
1 2 3 4 5 6 7 8 9 ● 0 CH ENTER
CH + − RETURN MUTING VOL + −
EDIT/ LEARN
TV/SAT/DVD MENU
DTV/DVD TOP MENU
SOURCE
DTV/SAT GUIDE
SET/ ENTER
DTV/SAT INFO
FAVORITE CH
VCR REC
RECEIVER
INPUT VOL− VOL+
Pioneer
HDTV PROJECTION MONITOR

Convergence adjustment may be fined-tuned here.

1. Press MENU and select SETUP by using the ⬅ or ➡ button and then pressing ⬇ button.

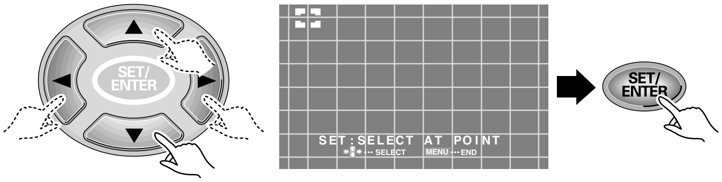
2. Adjust the center point convergence.

3. Select ADJ MULTI-POINT.


SET/ ENTER
SET/ ENTER

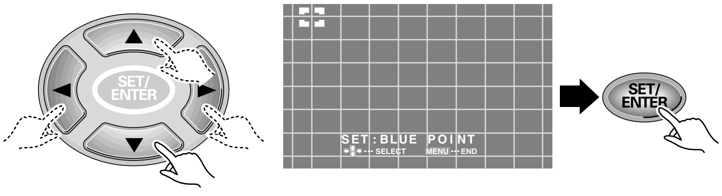
CONVERGENCE
ADJUSTMENT FOR 1080i, 480P
ADJ CENTER POINT
●ADJ MULTI–POINT
EXIT
⇕ --- SELECT SET --- SET MENU --- END

4. Select the adjust point.


SET/ ENTER
SET/ ENTER

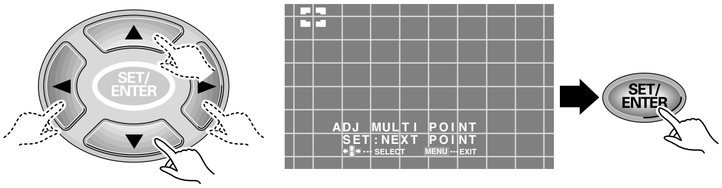
SET : SELECT AT POINT
--- SELECT MENU --- END

5. Adjust the red line.


SET/ ENTER
SET/ ENTER

SET : BLUE POINT
--- SELECT MENU --- END

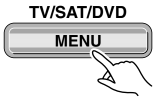
6. Adjust the blue line.


SET/ ENTER
SET/ ENTER

ADJ MULTI POINT
SET : NEXT POINT
--- SELECT MENU --- EXIT

- The brackets which shows the adjusting point will move in order. Move to the next point to be adjusted, and repeat steps 4 to 6.

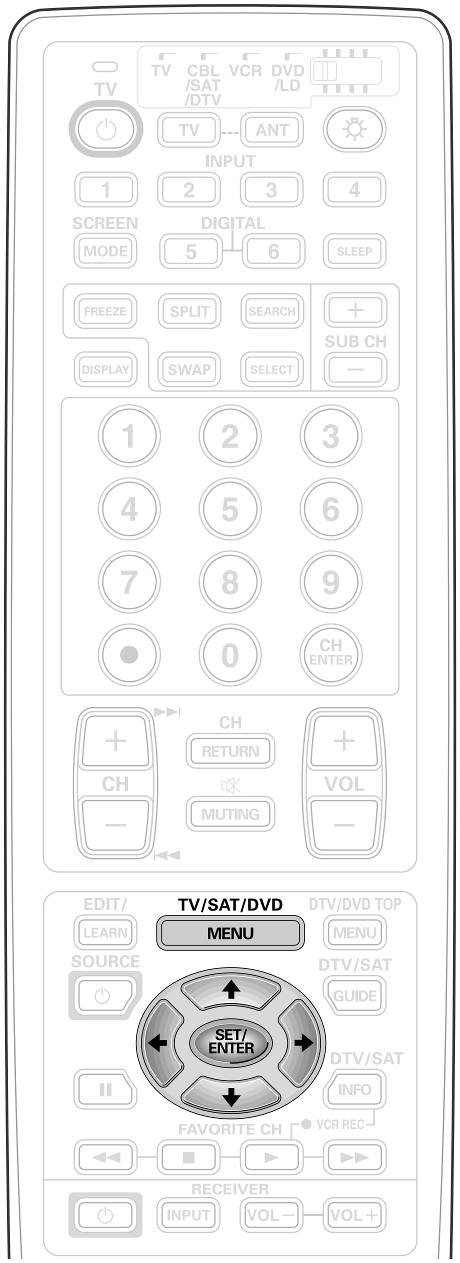
7. After completing the convergence adjustment, press MENU twice to turn the menu off.


TV/SAT/DVD
MENU

NOTES:

- The cursor is partially invisible around the edge of the screen according to the SCAN MODE.
- It is not possible to adjust all these points (points of change on the cross-hatch).
- Some of the cross-hatch lines are not straight, but this is not a malfunction. They are not always straight on a normal TV.

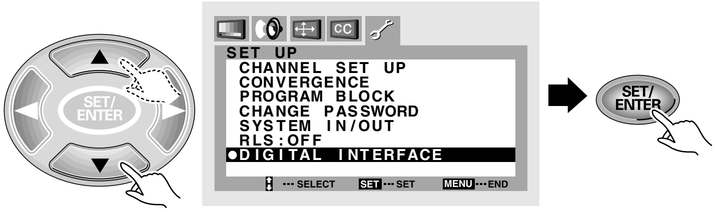
POWER MANAGEMENT


TV
TV
CBL /SAT /DTV
VCR
DVD /LD
TV
ANT
INPUT
1
2
3
4
SCREEN
MODE
DIGITAL
5
6
SLEEP
FREEZE
SPLIT
SEARCH
SUB CH
DISPLAY
SWAP
SELECT
1
2
3
4
5
6
7
8
9
0
CH ENTER
CH
RETURN
MUTING
CH
VOL
EDIT/ LEARN
TV/SAT/DVD
MENU
DTV/DVD TOP MENU
SOURCE
DTV/SAT GUIDE
SET/ ENTER
DTV/SAT INFO
FAVORITE CH
VCR REC
RECEIVER
INPUT
VOL −
VOL +

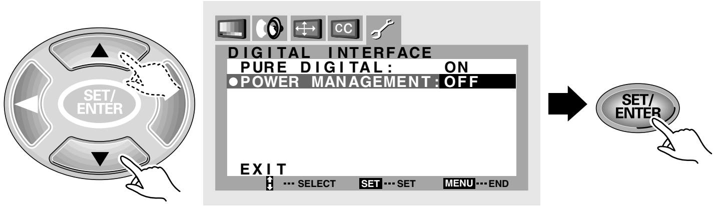
This function automatically turns on power management mode if no digital signal is input when digital signal input is selected. When digital signal input restarts, power management mode is cancelled.

1. Press MENU and select SETUP by using the ⬅ or ➡ button and then pressing ⬇ button.

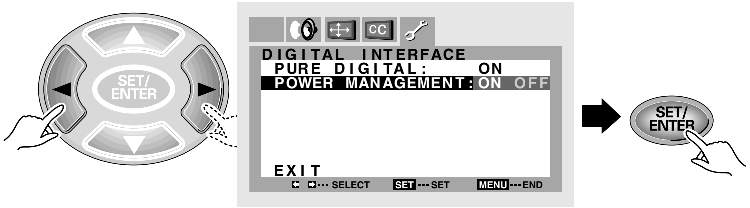
2. Select DIGITAL INTERFACE .


SET/ ENTER
CC
SET UP
CHANNEL SET UP
CONVERGENCE
PROGRAM BLOCK
CHANGE PASSWORD
SYSTEM IN/OUT
RLS:OFF
●DIGITAL INTERFACE
SELECT
SET SET
MENU END
SET/ ENTER

3. Select POWER MANAGEMENT .


SET/ ENTER
CC
DIGITAL INTERFACE
PURE DIGITAL: ON
●POWER MANAGEMENT: OFF
EXIT
SELECT
SET SET
MENU END
SET/ ENTER

4. Set POWER MANAGEMENT to ON.


SET/ ENTER
CC
DIGITAL INTERFACE
PURE DIGITAL: ON
POWER MANAGEMENT: ON OFF
EXIT
SELECT
SET SET
MENU END
SET/ ENTER

ON........ Turns on power management mode.
OFF...... Turns off power management mode.

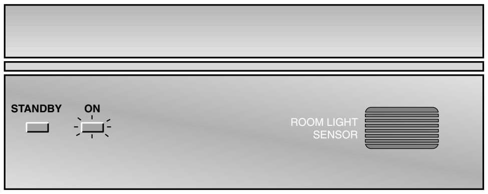
5. After setting, press MENU to turn the menu off.

TV/SAT/DVD
MENU

NOTES:

- It can be used only during digital signal input (INPUT 5, 6).
- When power management mode is operating, the POWER STANDBY indicator (green) flashes.
  At this time, power management mode can be shut off to operate the monitor by pushing either the INPUT SELECT, or MENU button on the front panel or on the remote control. Pushing the POWER button sets it in standby status.

  Control panel of the monitor


STANDBY
ON
ROOM LIGHT SENSOR

■ SPECIAL NOTES

• Picture Adjustments

MOVIE or GAME mode may not selected when receiving RGB input.

GAME mode setting:
- All signals output from the Projection Monitor will be unaffected. Only the original output signal is sent through the output jacks.

Picture Quality setting:
- When picture quality has been adjusted, the user mode data will be overwritten with the new settings.
- The COLOR, TINT, and SHARPNESS settings may not be changed when receiving RGB input (INPUT 3).
- When RLS is LEVEL1 or LEVEL 2, CONTRAST, BLACK LEVEL and COLOR cannot be adjusted.

Other Picture Quality setting:
- The COLOR TEMP, GAMMA and WHITE BALANCE settings may be changed when receiving RGB input and Digital input (INPUT 5, 6).

PURECINEMA adjustment:
- When the mode has been set to HQ or to STD, the picture may appear unnatural depending on the material being viewed (TV, VCR, DVD, etc.). When this happens, set the mode to OFF.

• Sound Adjustments

BASS, TREBLE and BALANCE are SPEAKER mode settings, which can only be adjusted when mode is NORMAL

Surround Mode setting:
- This function cannot be used when the SPEAKER mode is CENTER IN or when the SPEAKER mode is OFF and AUDIO OUT mode is FIXED.
- The surround effect cannot be obtained with mono sound.
- In some cases, the surround effect may be minimal.

• Connection with Receiver (1)

Speaker and AUDIO OUT Setting:
- After the speaker mode is set to CENTER IN, the volume of the center speaker should be controlled from this monitor.
- If AUDIO OUT is set to VAR and the sound is distorted, lower the Monitor volume.

• Connection with Receiver (2)

System Mode ON:
- The input cannot be switched even if you press the Input selector button of the remote control unit.
- On the sub-picture of a SPLIT screen, only the input signal from the antenna can be displayed.
- The SEARCH screen function will not be operable.
- No signal will be output from the AUDIO OUTPUT terminal.
- Setting SYSTEM MODE ON will cause RGB input signals and DIGITAL input signals to not be displayed.

• Changing Screen Mode

- When 1080i, 720p component signals or RGB signals, 1080i DIGITAL signals are input, SCREEN MODE will be limited to FULL.

8. PANEL FACILITIES

Front

A flip-down door conceals the INPUT 4 jacks. Push gently and release, to open the door. To close the door, lift it back up into place.

NOTE:
If you accidentally pull the door, it may not shut properly. Push the door back in to shut it.

① **POWER STANDBY/ON indicators**

red: STANDBY
green: when lit; ON
when flashing; power management in operation

② **ROOM LIGHT SENSOR (RLS)**
Sensor to detect the room brightness.

③ **MAIN POWER ⏽(OFF/ON) button**
If the button is OFF, the power of the monitor is shut off and ④ STANDBY/ON button on the receiver or TV power on the remote control will not function. Pressing the button again will turn the monitor ON and the monitor enters the standby mode. In the standby mode, you can turn on the monitor using the ④ STANDBY/ON button on the monitor or TV power on the remote control.

④ **POWER (⏻STANDBY/ON) button**
Switches the monitor between on and standby (note that the monitor consumes a small amount of power (0.5 W) in standby mode.

⑤ **INPUT SELECT and SET button**
Press to select your program source. Each press of the INPUT SELECT button changes the selection to the next source.

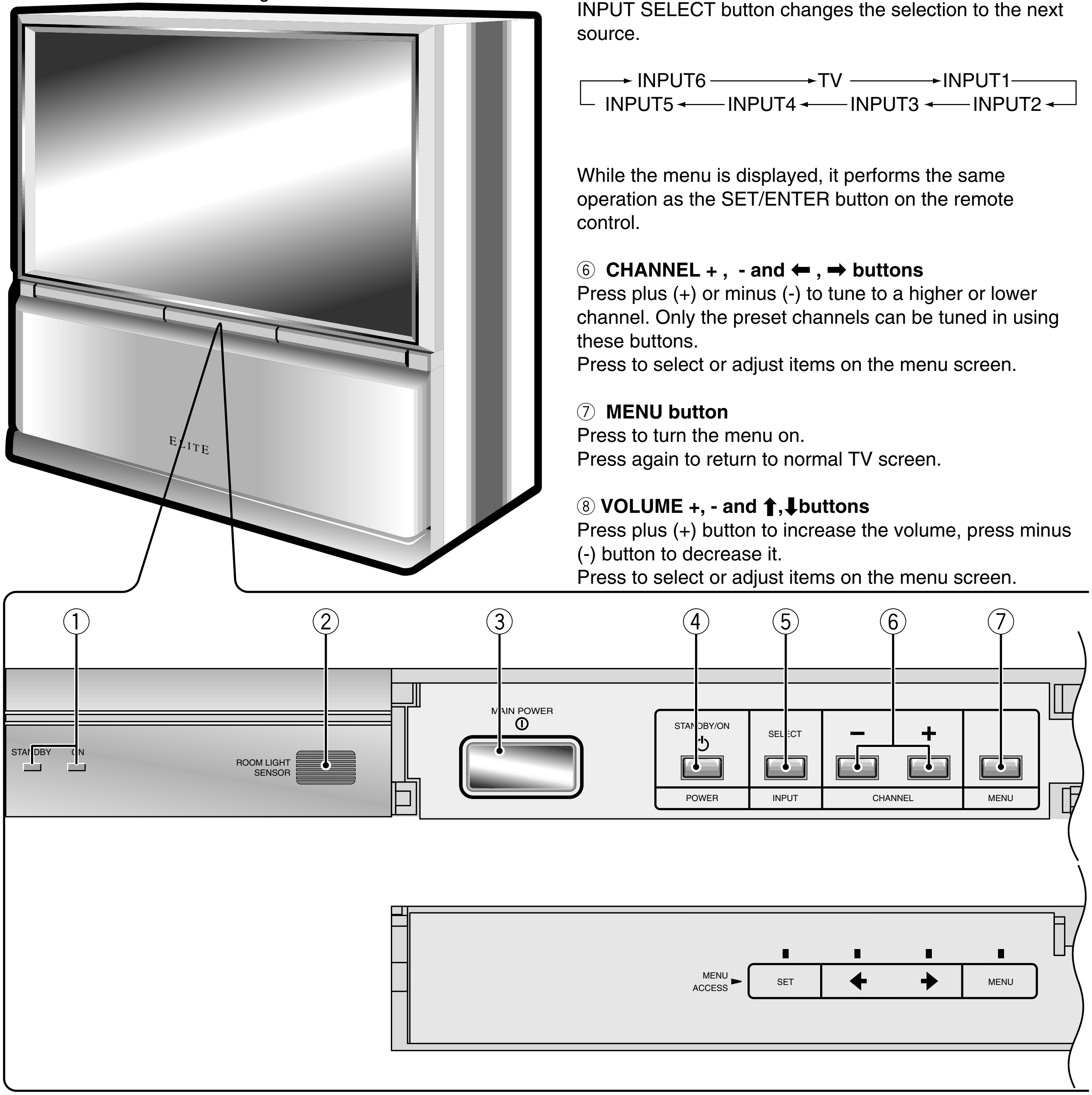
→ INPUT6 → TV → INPUT1 →
INPUT5 ← INPUT4 ← INPUT3 ← INPUT2 ←

While the menu is displayed, it performs the same operation as the SET/ENTER button on the remote control.

⑥ **CHANNEL + , - and ⬅ , ➡ buttons**
Press plus (+) or minus (-) to tune to a higher or lower channel. Only the preset channels can be tuned in using these buttons.
Press to select or adjust items on the menu screen.

⑦ **MENU button**
Press to turn the menu on.
Press again to return to normal TV screen.

⑧ **VOLUME +, - and ⬆,⬇buttons**
Press plus (+) button to increase the volume, press minus (-) button to decrease it.
Press to select or adjust items on the menu screen.



⑨ RETURN button

Press to set the Projection Monitor to its initial mode.

Initial mode

Input selector:	Set to TV.
TV channel:	Remains at the last channel set.
VOLUME:	Remains at the last setting.
MUTING:	OFF
PICTURE	
MODE:	STD
Parameters:	Set to 0.
PureCinema:	OFF
COLOR TEMP:	STD
3D Y/C LEVEL:	3
3D NR LEVEL:	3
SVM: HIGH	
FLESH TONE:	ON
BLACK ENHANCE:	ON
SHARP EFFECT:	ON
SOUND	
MTS:	MAIN
Parameters:	Set to 0.
SURROUND:	OFF
STABLE VOLUME:	OFF
SCREEN	
SCAN MODE:	1080i
MODE:	NATURAL WIDE
CC:	OFF
RLS:	OFF
SYSTEM IN/OUT	
SPEAKER:	NORMAL
AUDIO OUT:	FIXED
SYSTEM MODE:	OFF

- When this button is pressed while adjusting the MULTI-POINT convergence, the MULTI-POINT convergence returns to the initial mode.

⑩ INPUT 4 jacks

These inputs are for Video Movie and VCR. Use RCA-type pin plug cords (the same as those used in Hi-Fi systems) and S-VIDEO cords for connections. When the audio source to be connected is mono, connect the source to the L-(MONO) jack.

CAUTION:

Do not press any operation button on the Projection Monitor or the remote control unit while recording. Signals from the MONITOR/TV OUTPUT jacks may be temporarily interrupted when a button is pressed.

ATTENTION

The Projection Monitor Receiver will not function properly in the following cases.

- An electrical discharge in the CRT.
- Lightning storms.
- High static electricity environment.
- Poor voltage regulation in the power source.

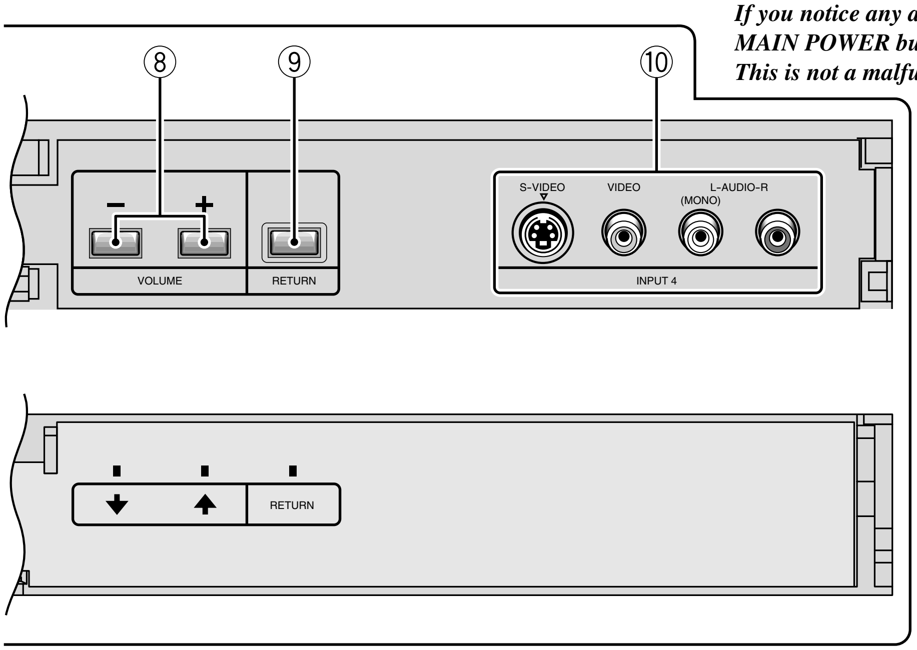
If the Projection Monitor does not operate properly, reset it as follows:

1. Turn off the power of the unit with the ③ MAIN POWER button.
2. After approximately 1 minute, turn on the power with ③ MAIN POWER button and ④ POWER (STANDBY/ON) button.

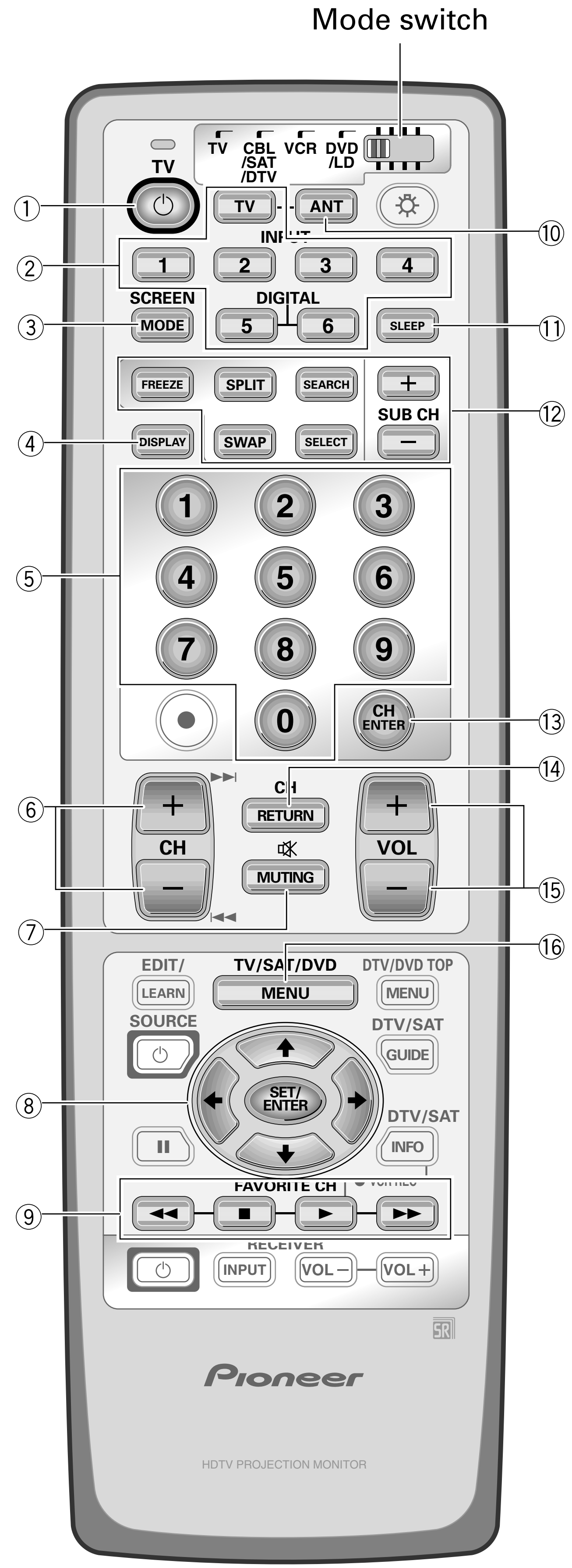
If the normal operation cannot be restored after the above treatment, immediately unplug the power cord and call your nearest PIONEER-authorized service center.

NOTES:

- ***On rare occasions, an electrical discharge may occur inside the CRT*. It makes a short, sharp pop and either no sound is produced or the volume level changes by itself. The SPLIT screen and SEARCH screen functions will be cancelled automatically if an electrical discharge occurs when this function is engaged.***
  ****CRT: Cathode-ray Tube***
- ***When an electrical discharge distorts the screen and the TV power has been automatically shut off, it can turn on.***
  If you notice any abnormality of the screen, turn off the MAIN POWER button for a few minutes then turn it on. This is not a malfunction.



Remote Control unit


Mode switch
TV
CBL /SAT /DTV
VCR
DVD /LD
TV
TV
ANT
INPUT
1
2
3
4
SCREEN
MODE
DIGITAL
5
6
SLEEP
FREEZE
SPLIT
SEARCH
+
SUB CH
–
DISPLAY
SWAP
SELECT
1
2
3
4
5
6
7
8
9
0
CH ENTER
CH
RETURN
MUTING
CH
VOL
EDIT/
LEARN
TV/SAT/DVD
MENU
DTV/DVD TOP
MENU
SOURCE
DTV/SAT
GUIDE
SET/ ENTER
DTV/SAT
INFO
FAVORITE CH
RECEIVER
INPUT
VOL –
VOL +
Pioneer
HDTV PROJECTION MONITOR
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯

Set the mode switch to TV.

① **TV Power button (STANDBY/ON)**
Turns the power of the monitor on and off.

② **INPUT Selector buttons (TV, INPUT 1 to INPUT 6)**
Press the button to select the source you wish to watch. The screen will display your selection.

③ **SCREEN MODE button**
Press to select the SCREEN MODE.

④ **DISPLAY button**
Press to display the input source, channel, setting and other screen indicators for a few seconds.

⑤ **Direct channel selection buttons**
Press the button (or buttons) that corresponds to the channel that you wish to watch.

⑥ **CH (channel) +, – button**
Press plus (+) or minus (–) to tune in a higher or lower channel. Only the preset channels can be tuned in using these buttons.

⑦ **MUTING button**
Press to temporarily turn off the sound. Press again to return to the previous volume level.

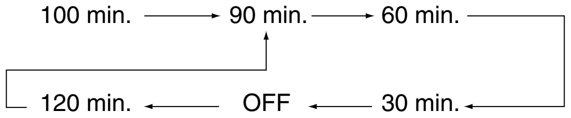
⑧ **Select/Adjust/Set buttons (SET/ENTER, ⬅, ➡, ⬆, ⬇)**
⬅, ➡, ⬆, ⬇: Press to select or adjust items on the menu screen.
SET/ENTER: Press to activate the selected function.

⑨ **FAVORITE CH buttons**
These buttons call up the channels that have been assigned to them.

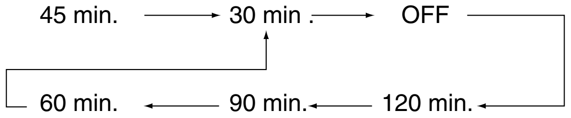
⑩ **ANT (antenna selector) button**
Press to switch between ANTENNA-A and ANTENNA-B when you wish to watch TV.

⑪ SLEEP timer button

Each time this button is pressed, the display will change as follows.
The display varies according to the remaining time.
Example:
If the remaining time is 100 minutes



If the remaining time is 45 minutes



⑫ SPLIT/SEARCH screen buttons

FREEZE:	When this button is pressed with the regular screen, the screen will change to the SPLIT screen and the picture at the time the button was pressed will become the sub-picture, displayed as a frozen image.
SPLIT:	Press to turn the SPLIT screen function on and off.
SEARCH:	Press to select the SEARCH screen mode.
SWAP:	Press to switch the main picture and sub picture when in SPLIT or 3-SEARCH screen mode.
SELECT:	Selects the screen for switching the channel or input source.*
SUB CH +,–:	Used to switch the channel for the sub-picture of the SPLIT screen.

⑬ CH ENTER button

Fix the selected channel with the direct channel selection buttons.

⑭ CH RETURN (channel return) button

Press to switch between the current channel and the channel you were watching immediately before.

⑮ VOL (volume) +, – buttons

Press plus (+) button to increase the volume, press minus (–) button to decrease it.
Volume level will appear on the screen as numbers and a bar graph. The maximum volume level is “63”.
The display will disappear from the screen after 2 seconds.

⑯ MENU button

Press to turn on the menu screen for use in function selection.
Press again to return to normal TV screen.

* With the 9 screen, the search picture’s input source and channel cannot be switched.